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## REMOVAL ACTION REPORT

# Anderson-Calhoun Mine/Mill Site Leadpoint, Washington

Contract No. 68-SO-1-03

TDD 02-10-0006

**CONFIDENTIAL**

Prepared for

U.S. Environmental Protection Agency, Region 10

USEPA SF



1183529

March 2003

**HERRERA**  
ENVIRONMENTAL  
CONSULTANTS

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TDD 02-10-0006

Prepared for

U.S. Environmental Protection Agency, Region 10  
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March 19, 2003

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## List of Abbreviations and Acronyms

AST	aboveground storage tank
AZLS	American Lead & Zinc Smelting Company
bgs	Below Ground Surface
BTU	British thermal unit
CO <sub>2</sub>	carbon dioxide
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
DOT	Department of Transportation
Ecology	Washington State Department of Ecology
E&E	Ecology & Environment, Inc.
EQM	Environmental Quality Management, Inc.
ERI	Environmental Reclamation, Inc.
ERRS	Emergency and Rapid Response Services
FPXRF	field portable x-ray fluorescence
H <sub>2</sub> SO <sub>4</sub>	sulfuric acid
Herrera	Herrera Environmental Consultants
HCl	hydrochloric acid
KVA	kilovolt amps
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
OSC	On-Scene Coordinator
MTCA	Model Toxics Control Act
NPL	National Priorities List
ppm	parts per million
PCBs	Polychlorinated biphenyls
PQL	Practical Quantitation Limit
PRP	Potentially Responsible Party
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
SCBA	Self-contained breathing apparatus
SQAP	Sampling and Quality Assurance Plan
START	Superfund Technical Assessment and Response Team
SVOCs	Semi-volatile Organic Compounds
TAL	Target Analyte List
TPH	Total Petroleum Hydrocarbons

TDD	Technical Direction Document
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
U.S. EPA	United States Environmental Protection Agency
UST	underground storage tank
VOCs	Volatile organic compounds

## **Introduction**

The U.S. Environmental Protection Agency (U.S. EPA) tasked the Herrera Environmental Consultants Inc. (Herrera) Superfund Technical Assessment and Response Team (START) under Technical Direction Document (TDD) 02-10-0006 to conduct oversight of a time critical fund-lead removal action at the former Anderson-Calhoun lead and zinc mine and mill processing plant in Leadpoint, Washington. On October 27, 2002, the START, U.S. EPA, and Emergency and Rapid Response Services (ERRS) contractors, Environmental Quality Management, Inc. (EQM) and Environmental Reclamation, Inc. (ERI), mobilized to the Anderson-Calhoun Mine/Mill site to conduct removal activities.

A preliminary site assessment conducted in September 2001 and a removal site evaluation conducted in September 2002 by the U.S. EPA identified numerous drums and containers across the site, as well as a large number of transformers and other electrical equipment. The site was not secured, and there was widespread evidence of trespassing, vandalism, and domestic and wild animal movement. The following objectives were developed for the site: mitigate exposure to mine-waste contaminated soils; mitigate exposure to PCBs through removal and off-site disposal of the transformers and other oil-filled electrical equipment; and mitigate exposure to other potentially hazardous substances through appropriate characterization and disposal.

The removal action was conducted from October 27, 2002 through November 3, 2002. During this time, the START documented site activities in field logbooks and with video tape and 35-millimeter photographs, conducted oversight of field hazard categorization analysis, conducted health and safety monitoring for on-site workers, conducted field screening for metal concentrations by field portable x-ray fluorescence (FPXRF), and collected samples from drums, containers, and transformers for confirmation analysis based on field hazard categorization results.

## Site Conditions and Background

### Site Location

The Anderson-Calhoun Mine/Mill is a former lead and zinc mine and mill processing plant located approximately ½ mile west-northwest of the former town of Leadpoint and approximately 35 miles northeast of Colville in Stevens County, Washington (Figure 1). The mine/mill property is situated within the western three-quarters of section 2, the eastern half of section 3, portions of the northern half of section 10, and the northwest quarter of section 11, township 39 north, range 41 east of the Willamette meridian in Stevens County, Washington (Figure 2; 48° 55' 9.84" N, 117° 35' 28.7" W) (USEPA 2002; Valley Title Co. 2002). The property is bounded by rural farm and ranch lands to the north and south, by Lime Creek Mountain to the west, and ranch lands, wooded areas, and Deep Lake-Boundary Road to the east.

The U.S. EPA Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) identification number for the Anderson-Calhoun Mine/Mill site is WAN001002309. The site is not listed on the National Priorities List (NPL) nor is it proposed for the NPL (USEPA 2002).

### Site Description

Mine and mill operations at the Anderson-Calhoun Mine/Mill site were located south of the water-filled lower mine pit at the west end of the main road access (Calhoun Mine Road), which intersects Deep Lake-Boundary Road at the northeast corner of the property (Figure 3). Evaporation and settlement ponds contained by berms constructed of waste rock material and tailing piles left over from the mill process are located on the valley floor east of the site and south of Calhoun Mine Road. Most of the operational structures within the site were demolished, with building concrete foundation pads remaining in-place for the electrical room, the dry room (mine workers locker room), two equipment warehouses, an office and assay lab, the engineer's office, the maintenance and repair shop, the wooden storage shed, the bag house, and the truck scale (Figure 4; McNinch 2002). The remaining intact structures included the mill building, the hopper (upper and lower) and primary crusher building, the secondary crusher building, the electrical substation, the first aid room, remnants of a conveyor belt system, the portal and shaft, the silo, and the powder house (Figure 4; McNinch 2002). Other site features include an estimated 10,000-gallon underground storage tank and drum storage rack, both located north of the mill building along the main road to the site.

The mill building was the largest structure on-site, 50 feet wide, 75 feet long, and 40 feet high (E&E 2002). The building was located west and adjacent to the base of a hill approximately 80 feet high, with a portal and shaft hopper connected to the mill by a conveyor belt. The mill consisted of several crushers, ball mills, flotation tanks, and filtering discs.









Figure 3. 1995 aerial photograph of the Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.

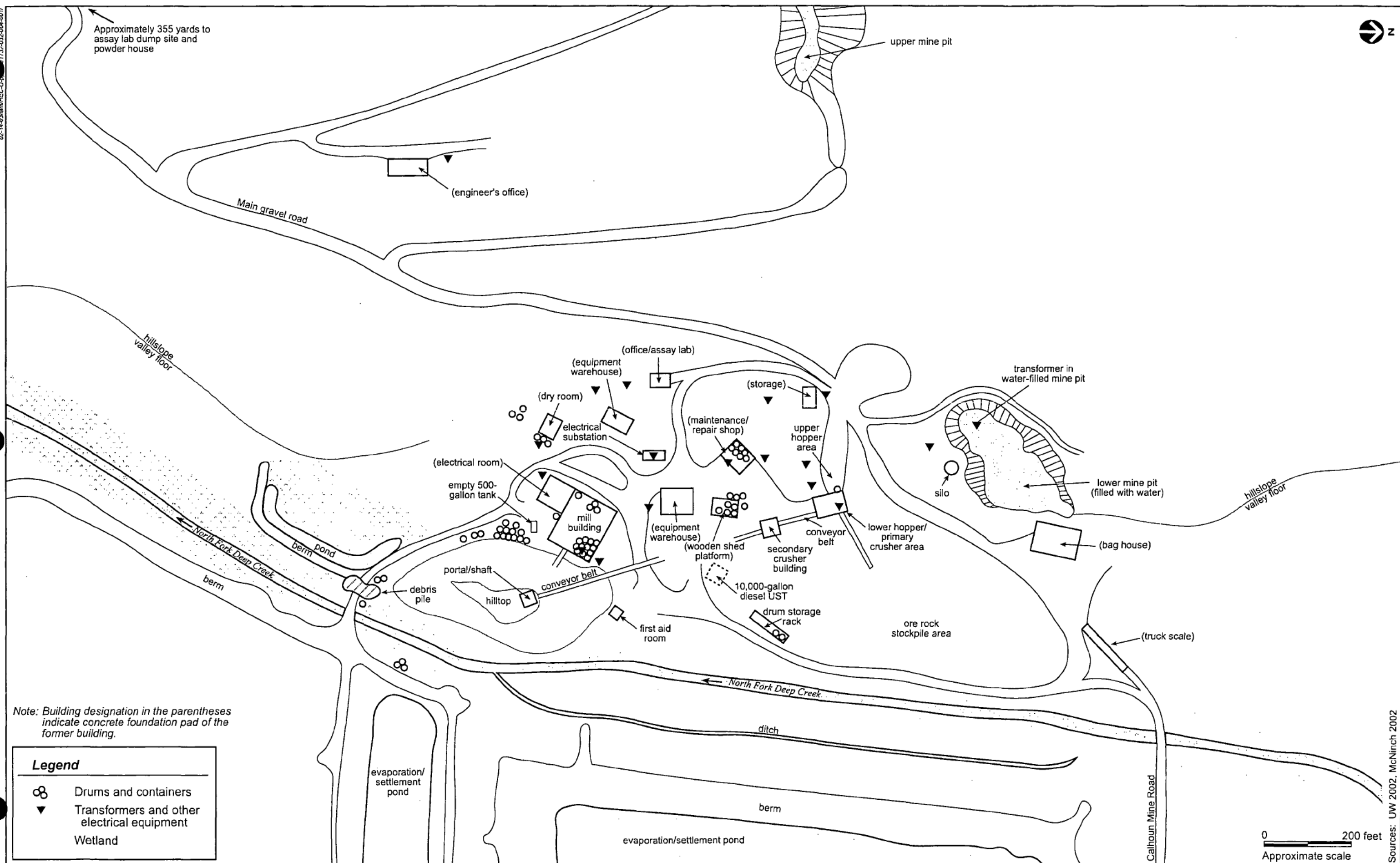


Figure 4. Site map, Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.



North Fork Deep Creek flows south through the entire length of the site onto private farm and ranch lands. A marshy wetland exists east of the stream and adjacent to the western side of the bermed evaporation/settlement ponds.

## **Site Background**

Andy Anderson discovered lead and zinc mineralization at the site in 1910, exploring with shallow pits and trenches. Between World War II and the early 1960s, several mining companies acquired the site and drilled various portions of the ore body, including an open-pit in the area prospected earlier by Anderson, as well as conducting other mechanized mining development. In the mid 1960s, a 1,200 ton flotation mill for zinc, lead, and silver was built. Another mill, shops, and warehouses also were constructed. The mine/mill operated until 1968-1969. Ownership and land use of the mine/mill property between its closure and the early 1980s is unknown. In the early 1980s, the mill operation was converted into a barite processor for drying and processing barite ore mined from the Flagstaff Mountain area located west of Lake Roosevelt, approximately 3 miles southwest of Northport, Washington. The barite ore was hauled to the mine/mill site for processing; the end product was shipped by rail to be marketed in Alberta, Canada (Gregory personal communication 2002). Barite processing end products are unknown, as well as the processing period. In the mid 1990s, Stevens County involuntarily acquired the mine/mill property due to tax delinquency (USEPA 2002). Since the mid to late 1990s, the site has been left abandoned.

## **Previous Investigations**

This section summarizes the results of a September 2001 site investigation (E&E 2002) and a September 2002 removal evaluation conducted by the U.S. EPA and their contractors (USEPA 2002).

### **2001 Site Investigation**

In September 2001, a site investigation was conducted at the Anderson-Calhoun Mine/Mill site by the U.S. EPA under TDD 01-02-0028. The site investigation included collection of seven surface soil samples within the tailing piles and two stained soil areas, four sediment samples adjacent to the evaporation/settlement ponds and ditch, and one surface water sample from the water-filled lower mine pit. All samples were analyzed for target analyte listed (TAL) metals; four surface soil samples collected within the two stained areas also were analyzed for pesticides and PCBs. Concentrations of lead (2,130 and 2,190 milligrams per kilogram [mg/kg]) and cadmium (124 and 129 mg/kg) in two surface soil samples collected near the wooden shed platform exceeded Model Toxics Control Act (MTCA) method A soil cleanup criteria for unrestricted land use (250 mg/kg for lead and 2 mg/kg for cadmium), as well as for industrial properties (1,000 mg/kg for lead and 2 mg/kg for cadmium). Other metal concentrations elevated above background levels in the same samples included barium, chromium, cobalt, copper,

mercury, silver, and zinc; however, concentrations were detected below established cleanup criteria. The five remaining surface soil samples had 18 of 19 metal concentrations detected either below established cleanup criteria or comparable to background levels (determined from a surface soil sample collected above the mine/mill site). No pesticides or PCBs were detected in four near-surface soil samples collected within two stained soil areas at the site.

## **2002 Removal Evaluation**

In September 2002, U.S. EPA conducted a removal site evaluation to determine whether site conditions warranted a removal action. Observations of site conditions included:

- Eighteen electrical transformers and other oil-filled electrical equipment were identified across the mine/mill site. One transformer was labeled PCB-contaminated (greater than 50 parts per million [ppm] PCBs), several transformers were marked non-PCB (less than 50 ppm PCBs), and others were unmarked. In most instances, transformers and other electrical equipment appeared to be intact. Several transformers were staged on concrete pads, while others were pole-mounted or were on the ground still attached to a pole.
- Approximately 100 55-gallon drums were identified across the mine/mill site. Several drums found out-of-doors appeared empty, while others were filled or partially filled with unknown liquid and/or solid substances. Numerous drums staged inside the dilapidated mill building were punctured with bullets and gelatinous or solid materials had spilled onto the concrete foundation. Several drums were labeled sodium hydroxide or corrosives. Many of the drums were field tested and found to exhibit corrosive, flammable, or ignitable characteristics.
- A partially filled bunkered underground storage tank was identified near the evaporation/settlement pond. The tank capacity was estimated to be 10,000 gallons and the contents were suspected to be diesel and perhaps other materials.
- The site was not secured, with widespread evidence of trespassing, vandalism, and domestic and wild animal movement.
- The presence of a wetland complex with evidence of deer, waterfowl, and amphibians was observed at the site.

Based on these observations, the following conclusions were made by the U.S. EPA supporting the concern that actual or threatened releases of hazardous substances from the site may present an imminent and substantial endangerment to public health or the environment, which triggered a time-critical removal action at the Anderson-Calhoun Mine/Mill site (USEPA 2002):

- The widespread evidence of trespassing (pedestrian footprints, spent ammunition cartridges, and vehicle tracks) and vandalism (bullet punctured drums, damaged equipment and structures) indicated that the human exposure pathway existed. Cadmium, lead, and PCBs were identified at the site and have known or suspected carcinogenic health effects to exposure for humans.
- Observations of deer, waterfowl, and amphibians, cattle, wild animals, and wildlife within the wetland area indicated that an ecological exposure pathway existed. Cadmium, lead, and PCBs were identified at the site with known or suspected carcinogenic health effects to ecological receptors through direct contact and ingestion.
- Surface soils at various locations across the site contained cadmium and lead at concentrations exceeding MTCA method A cleanup criteria for unrestricted land use. The potential existed for contaminated soil to be dispersed beyond the site by pedestrian and/or vehicle traffic.
- Nearby wetland areas could be contaminated if trespassers or recreationists were to vandalize the site, and dispose on-site liquid or solid materials into the nearby wetland complex.
- Warmer temperatures and dry weather typical during summer and fall months would contribute to wind-borne dispersal of mine waste, PCBs, and other potential contaminants. During spring snow melt, rainfall, or other forms of runoff inducing events could spread contaminants offsite.
- Transformers and other oil-filled electrical equipment, many of the 55-gallon drums, and the underground storage tank were susceptible to the threat of fire or explosion because of content characteristics (i.e., flammable and ignitable) and potential acts of vandalism due to unrestricted site access.
- Evidence of trespassing and vandalism indicated the potential for uncontrolled release of PCB-contaminated dielectric oil to the environment as a result of unauthorized salvage of copper cores within transformers and other electrical equipment for recovery as scrap metal sale.
- Exposed 55-gallon drums were susceptible to continued structural degradation and uncontrolled loss of contents. The underground storage tank of unknown contents, construction, and integrity was susceptible to structural degradation due to exposure to the environment.
- Stevens County involuntarily acquired ownership of the property through tax delinquency and is not believed to have caused nor contributed to the release or threatened release of hazardous substances to the site.

## 2002 USFWS Site Visit

The U.S. Fish and Wildlife Service (USFWS) visited the Anderson-Calhoun Mine and Mill site as part of the removal pre-planning activity. USFWS representatives were supportive of the scope and proposed response action and expressed concern for potential ecological issues which may be associated with the site, particularly the nearby wetland complex.

## Organization of the Removal Action

Removal action activities conducted at the Anderson-Calhoun Mine/Mill site consisted of:

- Bulking, transporting, and disposing of unknown hazardous substances in drums and containers, and
- Bulking, transporting, and disposing of oil potentially contaminated with PCBs from transformers and other electrical equipment.

Table 1 outlines the agencies or parties that provided removal action or disposal assistance, and the action(s) each took or role(s) each served.



**Table 1. Organization of Removal Action, Anderson-Calhoun Mine/Mill site, Leadpoint, Washington.**

Agencies or Parties Involved	Contact	Descriptions of Participation
U.S. EPA – Coeur d’Alene Field Office 1910 Northwest Boulevard, Suite 208 Coeur d’Alene, Idaho 83814 (208) 664-4858	Earl Liverman	Federal On-Scene Coordinator (OSC) responsible for overall response oversight.
U.S. EPA – Region 10 1200 Sixth Avenue Seattle, Washington 98101 (206) 553-4972	Jed Januch	Issued written Notice Letters and Request for Information Letters to potentially responsible parties
Herrera Environmental Consultants, Inc. START 2200 Sixth Avenue, Suite 1100 Seattle, Washington 98121 (206) 441-9080	Peter Jowise Diana Phelan David Brown Laura Jones-Lofink Paula Fedirchuk	Provided the OSC with technical assistance, administrative support, sampling, video, photo, and site documentation, site safety, and report preparation. Provided self-contained breathing apparatus (SCBAs) to ERRS for use during hazard categorization analysis of drums.
Environmental Quality Management, Inc. (EQM) ERRS 6825 216 <sup>th</sup> Street SW, Suite #A Lynnwood, Washington 98036 (425) 673-2900	Ron McManamy Steve Mitchell Jason Coury	Provided personnel and equipment necessary for and conducted the cleanup. Coordinated transportation and disposal of materials.
Environmental Reclamation, Inc. (ERI) ERRS Subsidiary of Enviro-Energy Corp. of Spokane, WA (208) 556-6384	Kip McGillvray	Primary operating subcontractor for EQM. Provided personnel and equipment necessary for and conducted the cleanup. Conducted hazard categorization analysis on drums and containers.
Philip Environmental Services, Inc. (800) 228-7872	Kellie Vigil	Provided offsite transport of materials for treatment and disposal.
North Creek Analytical, Inc. East 11115 Montgomery, Suite B Spokane, Washington 99206 (509) 924-9200	Dennis Wells	Provided laboratory analytical services for confirmation samples.

## Removal Action Activities

A Removal Action was conducted to mitigate potential releases of hazardous substances to the environment. Hazardous substances were identified at several locations on-site during previous investigations, with potential risk to human health and the environment through accidental or intentional release (E&E 2002; USEPA 2002). The Anderson-Calhoun Mine/Mill Removal Action activities were conducted from October 27 to November 3, 2002 under the authority of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The START documented site conditions of Removal Action activities using field logbooks, a 35-millimeter camera, and a video camera. The waste stream inventories for drums and containers are provided in Appendix A and for transformers and other oil-filled electrical equipment in Appendix B. The Pollution Report for the Anderson-Calhoun Mine/Mill Removal Action prepared by the OSC is attached in Appendix C. A data summary of hazard categorization analysis and results conducted by ERS on drums identified and inventoried by START are provided in Appendix D.

## Decision Areas

Decision Areas were designated as sections of the site segregated for convenience of conducting independent removal action activities. Five Decision Areas were designated: drums and containers, the underground storage tank, transformers and other electrical equipment, the assay lab dump site, and white crystalline waste piles.

### Decision Area 1: Drums and Containers

The following observations and hazard categorization results were collected from drums and containers located across the mine/mill site (Figure 5). Decision Area 1 was further segregated based on contaminants of concern and physical setting.

Descriptions of container types and their characteristics are provided on the inventory sheets in Appendix A. Total capacity of drums and containers stated throughout this section was based on field observations during inventory; waste content volume was determined during removal. In general, only containers holding potentially hazardous material were numbered; however, in some cases empty drums and containers were given identification numbers. Drums and containers were marked and inventoried in accordance with the Anderson-Calhoun Mine/Mill Removal Action Sampling and Quality Assurance Plan (Herrera 2002).

### Mill Building

The largest numbers of drums observed on-site were those staged together on the first floor inside the northeast corner of the mill building (also referred to as the main drum staging area,

Figure 6). Many of the drums were punctured by bullets, with contents released and solidified onto the concrete foundation. Several auction ticket labels associated with the James G. Murphy, Inc. Auctioneers were noted affixed to various ball mills and other mill processing equipment, as well as on one of the 55-gallon drums (drum #77) staged among a large center grouping of drums at the northeast corner of the building.

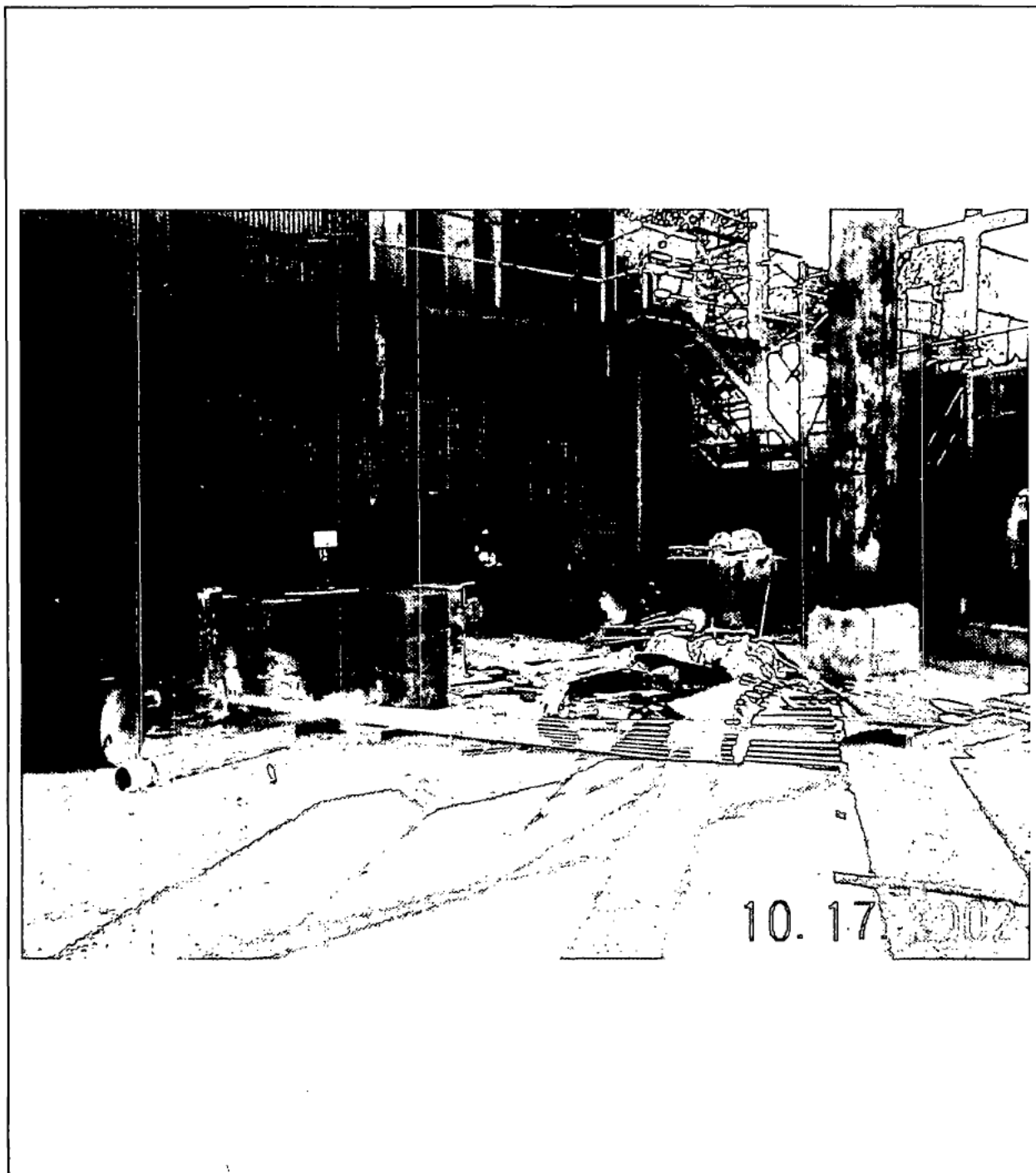
A total of 98 55-gallon drums were observed staged together on the first floor (#38 through #115 and #131 through #150). In general, most of the drums contained like substances identified either by labels and container type or from hazard categorization results including six sodium hydroxide powder (#40 through #45), eight liquid base material labeled “Aero-Promoter” (#91 through #97), and seventeen flammable liquid material including eight drums labeled “Super Floc 1” (#98 through #114). The largest number of drums in the center of the main staging area contained a liquid base material solidified due to cold temperatures identified by labels as “silicate of soda” (#32 through #90 and #131 through #150). Most of the perimeter drums (#32 through #90) were punctured by bullets, with contents released and solidified on the concrete floor. Drums located in the center of the group (#131 through #150) were full of silicate of soda. The 17 remaining drums included five flammable liquids (#38, #39, #47, #53, and #54), three frozen liquid (#55, #57, and #58), six caustic liquid (#46, #48 through #51, and #56); and one sludge (#115). Only drum #52 was empty.

Four 55-gallon steel drums were observed on the catwalk located next to the flotation tanks on the west side of the mill building (#116 through #119). Drum #116 contained brown- and black-colored sludge and drum #117 contained a mixture of brown liquid and sludge. Drums #118 and #119 contained frozen liquid (possibly ice). Also observed were two 55-gallon drums situated on an inaccessible small grated surface located near the roof; they were left in-place without marking with an identification number. ERRS observed a spigot on the bottom of both drums and that each was open on the top (possibly used to collect rain water).

Two 5-gallon pails were observed in and outside the mill building, one pail contained frozen liquid and sludge (#120) and the other (#122) contained a brown gelatinous substance, most likely grease.

### **Areas Southeast of Mill Building and Former Dry Room**

A total of 76 empty 55-gallon steel drums and one empty 500-gallon tank were observed on their sides and stacked on top of one another at the base of the hill southeast of the mill building. Empty drums and containers were noted along the base of the hill further south of the empty drum stockpile. Four 55-gallon drums (#1 through #4) also were observed near the empty drum stockpile. Drums #1, #2, and #3 appeared to contain waste oil, and drum #4 contained water. Oil staining was noted on the ground surface in the vicinity of the tank and surrounding drums #1 through #4.



**Figure 6.** View of the main drum staging area located inside the northeast corner of the mill building, Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.

Note: Photo was taken by the START during the preparation stage of the removal action on October 17, 2002.

A 3-gallon metal pail contained a hardened black tar-like substance (#123) and two 1-gallon metal oblong cans contained liquid (#124 and #125) were observed near the base of the mountain hill slope south of the former dry room concrete pad.

Five 1-gallon metal oblong cans were observed among eight disposed car and truck batteries located next to the former dry room concrete pad. Three of the five cans were empty, labeled “XYLON,” a flammable liquid, printed on one can. The two remaining cans contained liquid, one was labeled “Liquid Wrench,” a flammable liquid.

### **Debris Pile**

The road southeast of the mill building leading east to the evaporation/settlement ponds was blocked by a debris pile of drums, containers, wood pallet debris, a small pallet of white crystalline material, unused paper bags marked “Cebal Barite”, and other incidental debris.

Four 5-gallon metal pails (#5, #6, #8, and #9), one 30-gallon steel drum (#7), and two 55-gallon steel drums (#10 and #11) were observed alongside the road south of the mill building and in the vicinity of the debris pile. Containers #5 through #9 contained sludge material, possibly associated with gear lubricant or machine grease. Drums #10 and #11 contained light gray waste rock powder.

### **Former Wooden Shed Platform and Maintenance Repair Shop Pad**

Four 55-gallon steel drums and eight 1- or 5-gallon metal containers (#12 through #23) were located on and surrounding the former wooden shed platform (Figure 7). Eleven of the 12 drums and containers in this area contained sludge, possibly gear lubricant, grease, or dried red-colored paint. Drum #21 was a black steel bung-type drum, with a stenciled label printed on its side “Aero Promoter.” Also observed were eight disposed car and truck batteries on the wooden shed platform.

Ten 55-gallon steel drums set on wooden pallets were observed staged together on the former maintenance repair shop concrete pad (#28 through #37). Drum #28 was a black plastic-lined steel drum with no label and contained an acidic liquid. The nine remaining drums appeared similar in type and contained liquid.

### **Ponds, Drum Storage Rack, and Hopper Area**

Six 55-gallon empty steel drums were observed on their sides next to the wetland complex, east of the site. A damaged 55-gallon drum (#121) found adjacent to the debris pile shown in Figure 4 was removed from the North Fork Deep Creek. No other drums or containers were observed in the wetland complex or the evaporation/settlement ponds.

Two 55-gallon steel drums (#24 and #25) were observed on their sides at the drum storage rack located north of the mill building. Both drums had Chevron labels.

A 5-gallon metal pail (#26) was observed on its side with light gray granular material (rock powder) spilling out in the lower hopper/primary crusher area. A black 55-gallon drum labeled “silicate of soda” was observed on its side inside the hopper (#27).

Table 2 summarizes the quantity of drums and containers identified and assigned identification numbers, as well as the diesel UST, the 500-gallon tank, and disposed car and truck batteries.

**Table 2. Summary of drums and containers observed at the Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.**

Type of Containers	Total Number of Containers	Total Number Assigned Identification Numbers
55-gallon drums with unknown contents	125	125
Empty 55-gallon drums	83	1
Containers with unknown contents <sup>a</sup>	21	21
Empty containers <sup>a</sup>	3	3
10,000-gallon diesel UST	1 or 2 <sup>b</sup>	None
500-gallon tank	1	None
Lead-acid car and truck batteries	18	None

<sup>a</sup> Container sizes ranging from 1-gallon to 30-gallons.

<sup>b</sup> One tank with dual compartments or two tanks situated side-by-side.

## Decision Area 2: Underground Storage Tank

The underground storage tank, located approximately 250 feet north of the mill building and 100 feet east of the wooden shed platform next to the wetland complex, is situated west and upgradient of the adjacent North Fork Deep Creek and evaporation/settlement ponds (Figure 5). The structural integrity of the underground storage tank was not assessed.

Two ports and two vent pipes were noted on top of the tank, indicating either dual compartments or two tanks situated side-by-side. A concrete pedestal located immediately south of the tank probably supported a pump dispenser. The bunkered tank measures approximately 12 feet in diameter and 30 feet in length for an estimated capacity of 10,000 gallons. When the contents were investigated with a bailer prior to removal, a distinct petroleum odor (suspected as diesel) was noticed, a product sheen was evident on the surface of the water-product sample, and small droplets of oil-in-water were evident throughout the bailer column. Approximately 4,500 gallons of a water and diesel mixture were removed from the bunkered tank. Approximately 4 feet of fluid was measured inside the tank the day after it was pumped empty, likely indicating recharge by ground water.



**Figure 7.** Panoramic view of the mill site, including the wooden shed platform (center foreground), the mill building (upper right background), and the hill top with the portal/shaft on top just east (left) of the mill building, Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.

Note: Photo was taken by the START on top of the hill near the upper hopper area, looking to the southeast. The photo was taken in preparation of the removal action on October 17, 2002.



### Decision Area 3: Transformers and Other Electrical Equipment

All electrical equipment identified on-site was numbered; their locations illustrated in Figure 8.

Descriptions of types of electrical equipment, total estimated oil capacity, manufacturer labels, and other pertinent information are provided on inventory sheets in Appendix B. The oil storage capacity of each transformer and piece of electrical equipment either was noted on attached metal plates identifying the manufacturer and other pertinent information (i.e., kilovolt amps [KVA] power output rating) or was estimated based on similar size equipment observed across the site. Transformers and other oil-filled equipment identified across the site were marked and inventoried in accordance with the Anderson-Calhoun Mine/Mill Removal Action Sampling and Quality Assurance Plan (Herrera 2002).

Three pad-mounted transformers (T1, T2, and T3) and one transformer mounted on top of a power pole (T28) were located southwest of the mill building adjacent to the former electrical room concrete pad. Each pad-mounted transformer had a total oil capacity of 36 gallons, with a blue PCB label affixed to its side certifying a PCB content of less than 50 ppm. Pole-mounted transformer T28 had a total oil capacity of 10 gallons.

Six pad-mounted transformers (T4 through T9) and one transformer mounted on top of a power pole (T27) were located within a fenced enclosure east and adjacent to the former dry room concrete pad. Three pad-mounted transformers each had a total oil capacity of 7.5 gallons (T4, T5, and T6), the other three had a total oil capacity of 20 gallons each (T7, T8, and T9), and the pole-mounted transformer had a total oil capacity of 11 gallons (T27).

One pole-mounted transformer with a 75 KVA power output rating and an estimated oil storage capacity of 40 gallons (T26) was observed west-northwest and uphill from the former dry room concrete pad. The position of crossbars on top of the power pole parallel to the hill slope and the cleared area of trees further uphill behind this transformer towards the engineer's office indicated that T26 supplied electricity to the engineer's office from the substation.

The main power substation was observed within a fenced enclosure west-northwest of the mill building, consisting of a large pad-mounted transformer (T10) and two wire coils (T11 and T12). The transformer had three compartments, with an estimated 1,200 gallons of oil. No oil or fluids was found in either wire coil.

Three large pad-mounted transformers were located within a fenced enclosure north-northeast of the mill building. Each transformer was situated on its own concrete pedestal, rated for 200 KVA power output, and had a total oil capacity of 170 gallons (T13, T14, and T15). One small transformer was also within the enclosure, with a total oil capacity of 9 gallons (T16).

A power pole on the ground with a pole-mounted transformer attached was observed alongside the main road adjacent to the former equipment warehouse concrete pad (T17). The lid was open

and no oil was observed inside the transformer or on the ground beneath it. The estimated oil storage capacity was approximately 10 gallons of oil.

A large empty pad-mounted transformer carcass without a lid was observed on the former maintenance repair shop concrete pad (T18).

Three large platform-mounted transformers on power poles were observed on top of the hill next to the upper hopper area north of the mill building (T19, T20, and T21). Each transformer had a total oil capacity of 44 gallons (Figure 9).

A large pad-mounted transformer within a fenced enclosure was observed north of the upper hopper area and west uphill from the silo (T22). A yellow PCB-contaminated oil label was affixed to the side, certifying a PCB concentration greater than 50 ppm. Transformer T22 had a total oil capacity of 114 gallons.

One pole-mounted transformer with the lid attached was observed on the hill slope south of the hopper (T23). The OSC observed oil-stained ground beneath the transformer. Transformer T23 had a total oil capacity of 9 gallons.

An empty pole-mounted transformer was observed on the ground west of the upper hopper area alongside the main gravel road (T24). No oil stained ground beneath the transformer was observed. Transformer T24 had an estimated oil storage capacity of 10 gallons.

A pole-mounted transformer attached to a power pole was observed on the ground south of the former office and assay lab concrete pad (T25). The lid was intact; the transformer had a total oil capacity of 34 gallons.

Electrical equipment containing dielectric oil was observed in the lower hopper/primary crusher area (Figure 10), including three oil-filled circuit breakers (T29, T30, and T35; each with an estimated oil storage capacity of 2 gallons), a linestarter (T31; estimated oil storage capacity of 20 gallons), a controller switch (T32; estimated oil storage capacity of 30 gallons), an under-voltage trip switch (T33; estimated oil storage capacity of 2 gallons), and a wall-mounted transformer (T34; estimated oil storage capacity of 5 gallons). Oil staining on the wall and concrete ledge beneath transformer T34 was observed. Another trip switch was observed in this area (T36; estimated oil storage capacity of 2 gallons), but it was empty.

An empty transformer (T37), a capacitor (T38), and an empty trip switch (T41) were observed west-southwest of the upper hopper area. Capacitor T38 was the only equipment in this area containing oil (approximately 3 gallons). Capacitor (T47) was found in this area during a second sweep of the site, after removal activities were completed. Capacitor T47 was similar to T38, rusted, but did not appear to contain any oil.

Two large platform-mounted transformers (T39 and T40) were observed west and uphill from the former maintenance repair shop concrete pad. Both transformers were hidden behind trees,

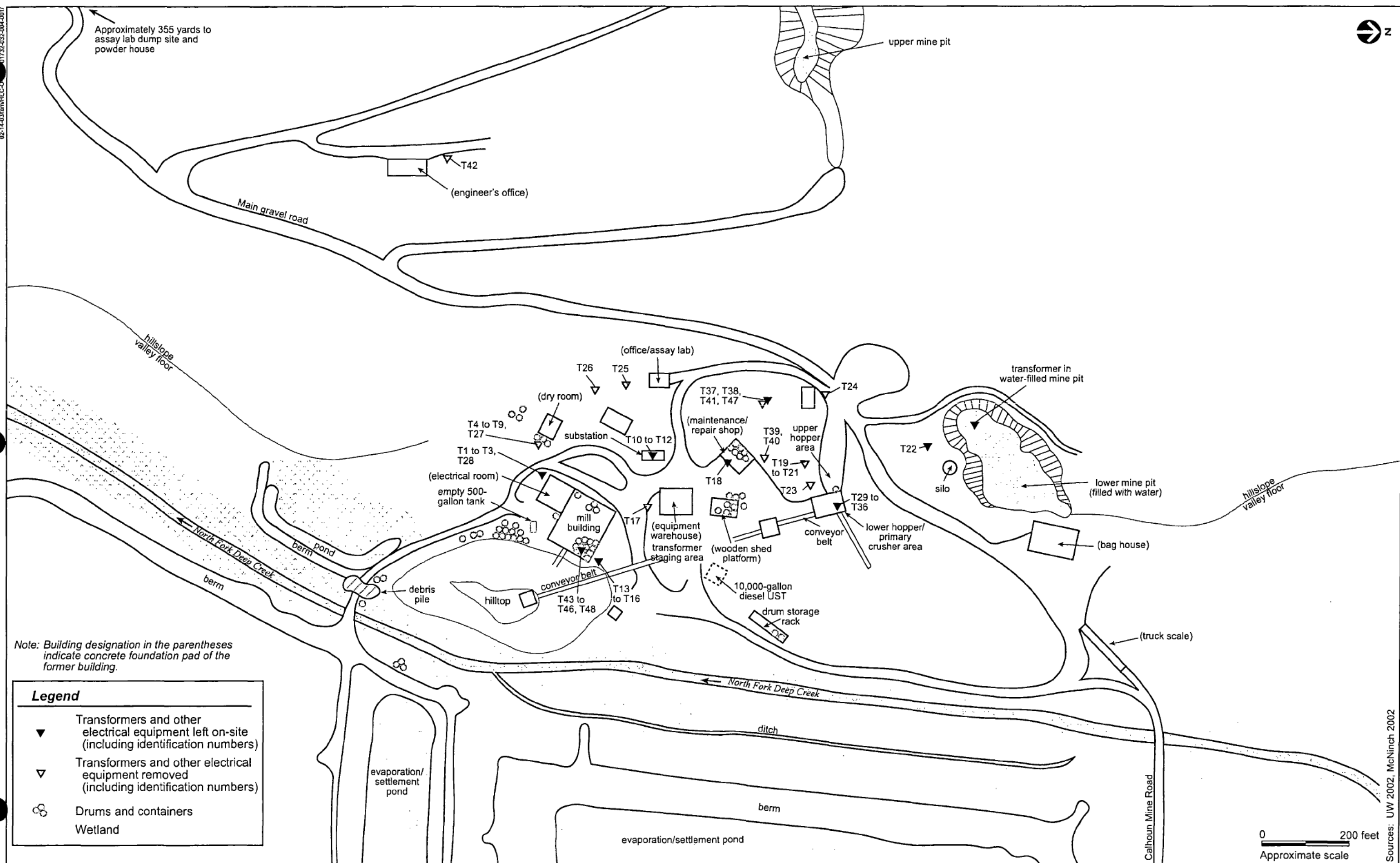
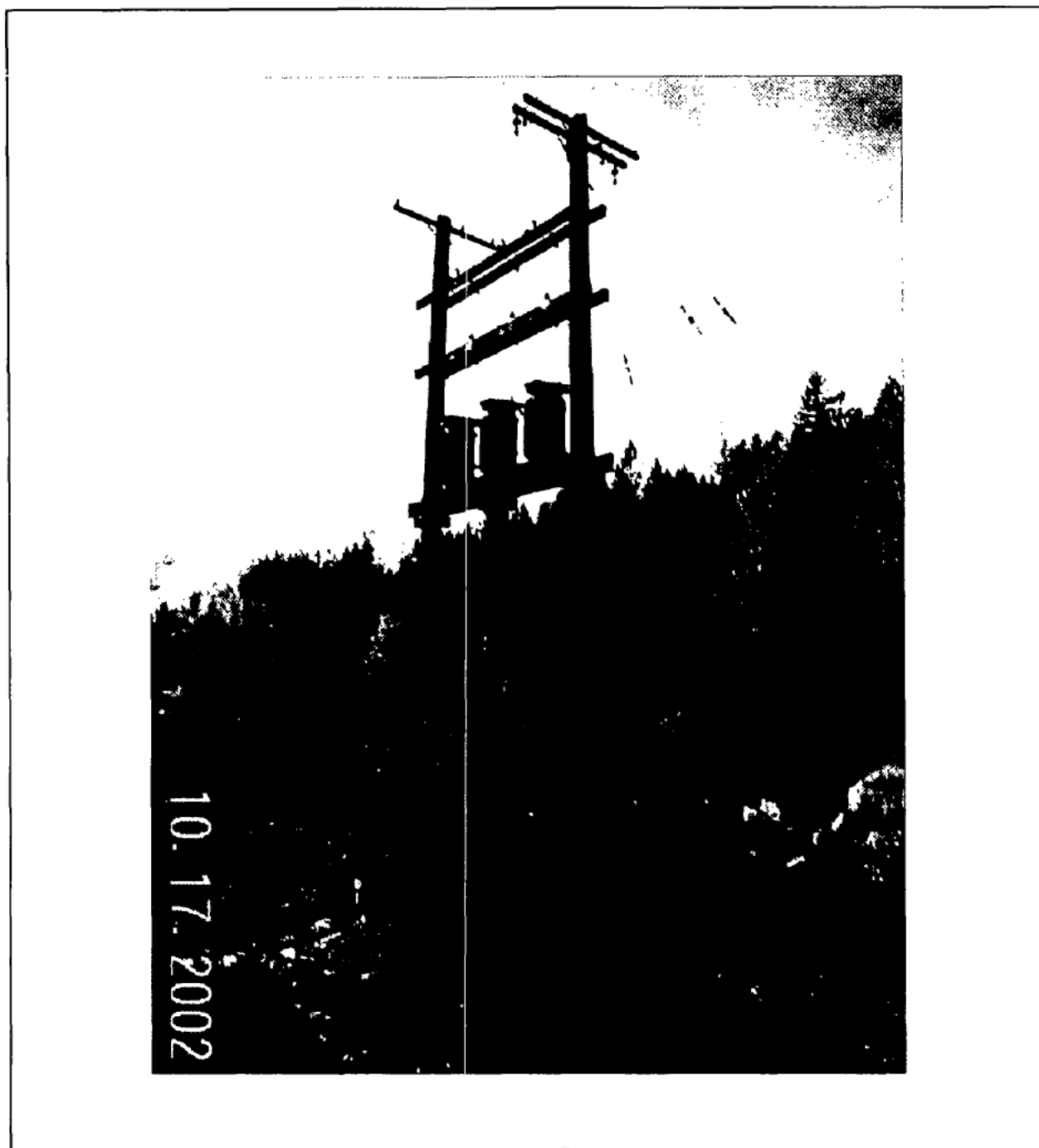
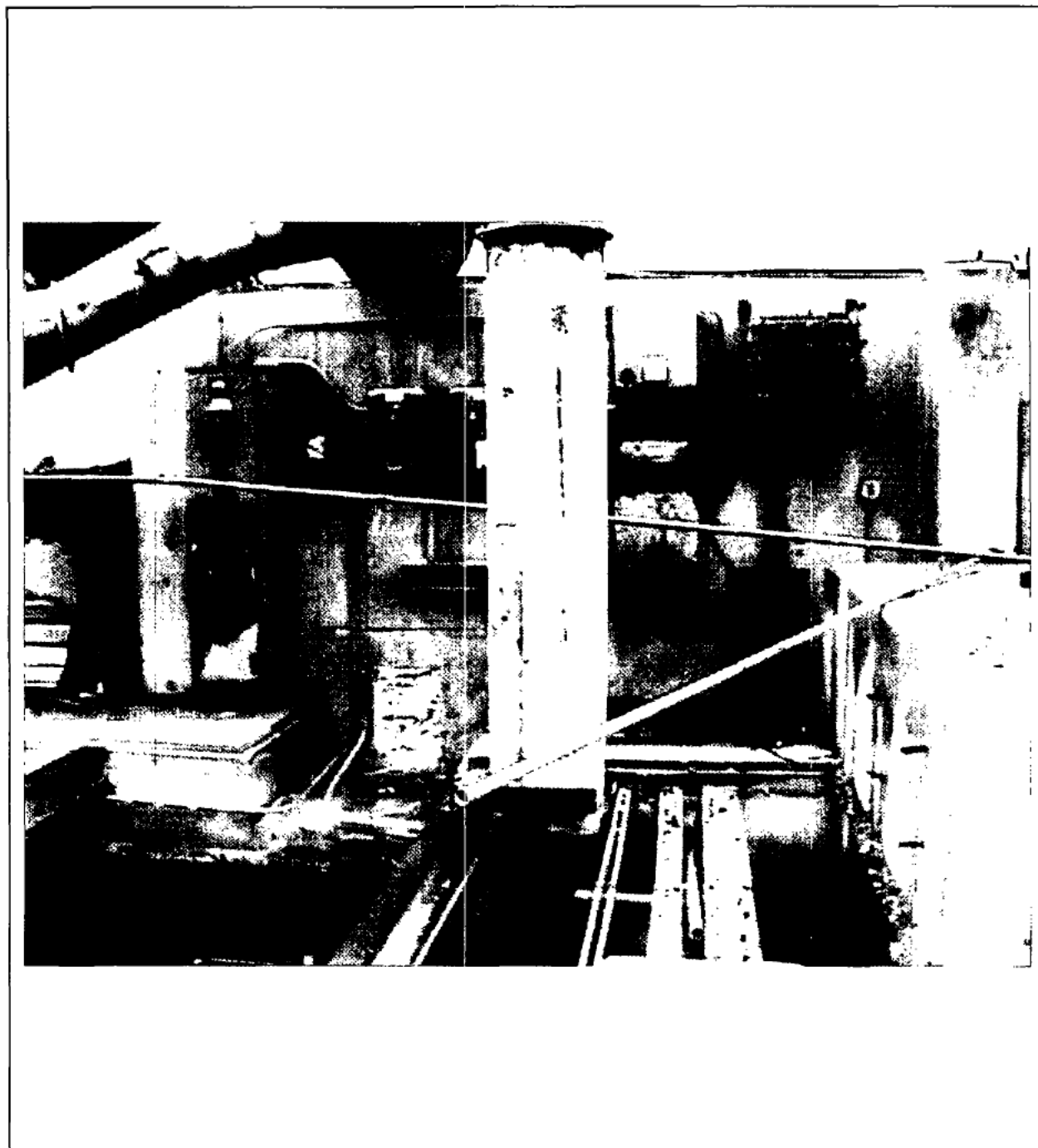


Figure 8. Locations of transformers and other oil-filled electrical equipment, Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.



**Figure 9.** View of three transformers on a pole-mounted platform (later designated as T19, T20, and T21), view from the upper hopper area looking to the southwest, Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.

Note: Photo was taken by the START during the preparation stage of the removal action on October 17, 2002.



**Figure 10. Oil-filled electrical equipment including switches and circuit breakers located in the lower hopper/primary crusher area, Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.**

Note: Digital still photograph was taken from videotape by START on October 29, 2002, prior to the removal action.

visible from above, standing near T37 and T38. Transformer T39 had a total oil capacity of 60 gallons and transformer T40 had an estimated oil storage capacity of 30 gallons.

A pole-mounted transformer (T42) that supplied power to the former engineer's office building was located southwest and uphill from transformer T26 and the main mine/mill site. Transformer T42 had a total oil capacity of 20 gallons.

Several oil-filled circuit breakers and switches were observed on the upper catwalk in the mill building above the main drum area and on the first floor next to the drums, including a switch for the main disc (T43; estimated oil storage capacity of 6 gallons), two circuit breakers for the rod mill disc and the rod mill starter (T45 and T46; each has an estimated oil storage capacity of 2 gallons), and a circuit breaker and switch for the regrind starter (T48; estimated oil storage capacity of 2 gallons each). The circuit breaker for the main disc (T44) did not contain any oil. James G. Murphy, Inc. auction ticket labels were affixed to T43 and T44.

Table 3 summarizes the quantity of transformers and other electrical equipment identified and assigned identification numbers, as well the quantity of equipment removed from or left on-site.

**Table 3. Summary of transformers and other electrical equipment observed at the Anderson-Calhoun Mine/Mill site in Leadpoint, Washington.**

Type of Electrical Equipment	Total Number of Equipment Assigned Identification Numbers	Total Number of Equipment Removed From Site	Total Number of Equipment Left On-site <sup>b</sup>
Transformers containing oil	27	21	6
Empty transformers	4	3	1
Miscellaneous electrical equipment <sup>a</sup> containing oil	12	1	11
Empty miscellaneous electrical equipment <sup>a</sup>	6	3	3

<sup>a</sup> Miscellaneous electrical equipment included circuit breakers, switches, capacitors, and other equipment not identified as a transformer.

<sup>b</sup> Large oil-filled transformers and other electrical equipment were drained of oil prior to leaving on-site.

## Decision Area 4: Assay Lab Dump Site

The assay lab dump site was discovered during a site reconnaissance of the upper mine pit area on October 30, 2002. The dump site was located on the east side of the main gravel road approximately 0.5 mile southwest and uphill from the main mine/mill site (Figure 3). The former powder house, where explosives used for mining were kept, was located across the road. The powder house was found empty. A barbed wire fence oriented east/west and across the road approximately 240 yards south of the dump site appeared to represent the mine property boundary.

The dump site included 38 glass and plastic bottles and jars ranging in size from 1-ounce to 2-pints containing unknown liquid and solid materials, plus empty glass jugs and broken amber-colored glass bottles with rubber stoppers and flexible tubing. Most of the containers did not have labels or the labels found appeared to be laboratory identification sample numbers. The only identifiable labeled container was an empty 1-gallon metal oblong can of acetone. Also found among the bottles were unused triplicate paper receipt slips printed with the former Calhoun Mine logo. Other items noted at the dump site were several empty and rusted 55-gallon drums partially covered by tree limbs and soil.

## Decision Area 5: White Crystalline Waste Piles

Three white crystalline waste piles were identified (Figure 5). The first pile (estimated 1 cubic yard) included a small pile of white crystalline material on a pallet located near the debris pile, accompanied by unused printed paper sacks labeled “Cebal Barite.”

The second waste pile (estimated 5 cubic yards) was located at the base of the hill south of the lower hopper/primary crusher area. This material appeared chalky and softer than the other piles.

The third and largest waste pile consisted of several pallets loaded with white crystalline material (estimated 10 cubic yards), some were contained in deteriorated unmarked paper sacks located at the center of the wooden shed platform. No identifiable labels or other markings were noted.

## Daily Activities

The following activities occurred during the Anderson-Calhoun Mine/Mill Removal Action, as documented by START and OSC oversight:

- |                                    |   |
|------------------------------------|---|
| <b>October 27, 2002<br/>Sunday</b> | ■ START and ERRS mobilized to the Anderson-Calhoun Mine/Mill site.  |
| <b>October 28, 2002<br/>Monday</b> | <ul style="list-style-type: none"><li>■ START videotaped the site prior to removal action activities, prepared drum/container and transformer/electrical equipment inventories, and labeled each drum or transformer with a unique identification number.</li><li>■ ERRS conducted a site walk to locate drums and transformers not identified in the preliminary site assessment.</li><li>■ Prior to this area being videotaped, ERRS segregated 76 empty 55-gallon drums from those containing unknown substances located southeast of the mill building.</li></ul> |



- ERRS prepared a bermed visqueen-lined staging area on the former equipment warehouse concrete pad next to the main road (refer to as the transformer staging area).
- ERRS conducted hazard categorization analysis on drums START had labeled and inventoried.
- ERRS used front loader equipment to transfer drums located in outlying areas to the transformer staging area.
- ERRS collected confirmation oil samples for PCB analysis from transformers too large to be removed from the site, including T10 (substation), T13 through T15, and T22.
- An accidental spill occurred late in the day during ERRS' attempt to remove an oil-filled transformer (T21) from its pole-mounted platform, which caused the crane to topple over and drop the transformer onto the slope below. Removal work was halted to upright the crane and assess the condition of T21 (refer to Transformer T21 Spill Incident section of this report).

**October 29, 2002**  
**Tuesday**

- One START member demobilized from the site to deliver five confirmation oil samples to North Creek Analytical laboratory in Spokane, Washington for a 24-hour turnaround time on PCB analysis.
- START observed and documented ERRS removal of transformer T21 from the slope using a track hoe. ERRS attempted to remove oil-filled transformer T20 from the same pole-mounted platform as T21; however, oil released from T20 onto the slope below as it was swung over to the staging area (upper hopper area). The OSC and START halted work and revised the work plan to remove pole-mounted transformers by draining oil into drums prior to dismounting them from power poles.
- ERRS drained oil from pole-mounted transformers T19, T26, T27, and T28 into drums, and START collected confirmation oil samples.
- START observed and documented ERRS removal of oil-stained soil from the hill slope where oil released from transformers T20 and T21. A track hoe and hand shovel were used.
- ERRS cleared debris and created a work area inside the northeast corner of the mill building around the main drum staging area. Began hazard categorization analysis on drum contents.

- START continued labeling and inventorying remaining drums, transformers, and other oil-filled electrical equipment across the site.
- During site walk, START discovered two additional transformers (T39 and T40) located on the hill slope above the former maintenance repair shop concrete pad that were not previously identified.
- START conducted XRF testing for lead and other metals in soil near the wooden shed platform to confirm levels detected in an earlier preliminary site assessment.
- Change of EQM on-site project manager as per OSC request.

**October 30, 2002**  
**Wednesday**

- START continued observing and documenting ERRS draining oil and removing pole-mounted transformers from the hill slope. Transformer carcasses were staged within the bermed visqueen-lined transformer staging area. ERRS disassembled and drained oil from various circuit breakers, switch boxes, and other electrical equipment located in the lower hopper/primary crusher area.
- START conducted air monitoring (cyanide and four gas meters) in the main drum staging area, where ERRS continued hazard categorization analysis on drum contents and began consolidating and separating drums based on hazard categorization results. START collected product samples of selected drums representing different waste streams. ERRS began crushing empty drums identified in the area southeast of the mill building.
- ERRS conducted field cyanide testing on one of several waste rock powder stockpiles located south and southwest of the mill building.
- START conducted a site walk uphill from the main mine/mill site, along the main gravel road and upper mine pit area. START discovered a pole-mounted transformer (T42) near the former engineer's office, and a suspected assay lab dump site alongside the main gravel road approximately ½ mile southwest of the main mine/mill site.
- START labeled and inventoried circuit breakers and switch boxes located inside and upper level at the northeast corner of the mill building.
- START began conducting GPS survey of the site.

**October 31, 2002**  
**Thursday**

- Two over-the-road dump trucks (18 cubic yard capacity each) with pup trailers (15 cubic yard capacity each) arrived

at the site. The dump boxes were lined with visqueen prior to ERRS loading crushed drums and Class 9 waste material. Both dump trucks were filled and transported the waste offsite for land disposal at the Columbia Ridge Landfill in Arlington, Oregon.

- Two 5,000-gallon tanker trucks arrived at the site and ERRS began vacuuming flammable liquids and waste oil identified in drums, mineral oil containing less than 50 ppm PCBs from transformers, and diesel from the UST. ERRS and OSC discovered the UST may consist of either a dual compartment tank or two smaller sized tanks situated side by side. START collected two product samples from the UST prior to being vacuumed. Both tanker trucks left the site with flammable liquids and oil and transported to Burlington Environmental, Inc. facility in Tacoma, Washington for incineration.
  - START continued observing and documenting ERRS removal of oil-stained soil and rock from transformer oil spills and T21 on the hill slope. ERRS loaded oil-stained soil and rock into a 20 cubic yard visqueen-lined roll-off box. The roll-off box transported the waste to Burlington Environmental, Inc. in Kent, Washington for land disposal. START collected one confirmation soil sample from excavated area where oil from the T21 spill location after the soil was excavated.
  - START, OSC, and ERRS assessed the assay lab dump site to determine appropriate removal action requirements.
  - ERRS drained and removed pole-mounted transformer T42 located near the engineer's office.
  - START located and marked disposed car and truck batteries observed across the site, with the majority located near the wooden shed platform and two areas near the former dry room pad.
- November 1, 2002  
Friday**
- Two semi-truck trailers with 85 overpack drums arrived at the site. ERRS began overpacking drums located in the main drum staging area. ERRS loaded the semi-truck trailers with overpacked drums and DOT secondary containment boxes filled with transformer carcasses.
  - One START member demobilized from the site to deliver five product samples collected from drums to North Creek Analytical laboratory for pH analysis (24-hour holding time). The START member also gathered information and maps from Stevens County Assessors office and Valley

Title Company in Colville, Washington showing the mine property boundary and names of adjacent private property owners.

- START monitored oil from transformer T22 being drained into three 55-gallon drums. Oil from T22 was found to contain 140 ppm PCBs and therefore, oil was drummed and transported offsite separately from other transformers to Burlington Environmental, Inc. in Kent, Washington for incineration. START discovered a power pole with possible pole-mounted transformer(s) underwater in the water-filled lower mine pit while monitoring T22.
- ERRS loaded 18 disposed car and truck lead-acid batteries into a semi-truck trailer on a plastic-lined and wrapped pallet. The batteries were transported offsite to Burlington Environmental, Inc. in Kent, Washington for neutralization and recycling.
- ERRS completed draining and removing transformers and staging the carcasses for loading into DOT secondary containment boxes and into two semi-truck trailers. ERRS drained oil from several circuit breakers and switch boxes located on upper catwalks above main drum staging area. The oil was transported to Burlington Environment, Inc. in Tacoma, Washington for incineration. The carcasses were transported to Burlington Environmental, Inc. in Kent, Washington for scrap metal recycling.

**November 2, 2002  
Saturday**

- A third semi-truck trailer arrived at the site for the overpack drums collected at the main drum staging area. Chemical spills and other debris surrounding drums in the main drum staging area (including white waste material, hardened silicate of soda, sodium hydroxide powder, etc.) was collected and placed into three overpack drums (each 85 gallons capacity) for transport offsite for land disposal at the Columbia Ridge Landfill in Arlington, Oregon.
- ERRS collected 38 bottles and jars at the assay lab dump site, transported them to the transformer staging area, and conducted hazard categorization analysis on their contents while START documented the results. The contents were consolidated into a 5-gallon bucket of Solidisorb material and transported with other flammable materials to Burlington Environmental, Inc. in Tacoma, Washington for incineration.
- (b) (6) (b) (6) visited the site and was interviewed by the START project manager

regarding information on mill processing plant operations, boundaries of the mine/mill property, and the identification of demolished buildings across the site. (b) (6) also expressed concern regarding recent on-site cattle deaths as a result of possible ingestion of material from the white crystalline waste piles.

- START informed the OSC of the interview results. Per OSC request, START collected samples from three white crystalline waste piles for chemical analysis, including a small pile near the debris pile, a large pile on the wooden shed platform, and a pile at the base of the hill slope near the hopper area.
- ERRS filled the large transformer carcasses staged at the site with clay absorbent material, including T10, T13, T14, T15, and T22.
- ERRS used a front loader to transfer soil and rock from a source in the upper hopper area to cover the T21 release excavation.
- START completed GPS survey of the site, including the locations of the assay lab dump site, barbed wire fence, engineer's office, and a line survey of the main gravel road.
- OSC and ERRS demobilized from the site.
- START videotaped the site to document conditions after the removal action activities were completed.
- START demobilized from the site in the afternoon and transported the remaining product samples collected from drums to the North Creek Analytical laboratory in Bothell, Washington.

## Interview—(b) (6)

The following information was provided by (b) (6) (b) (6)

(b) (6) identified the locations of former operational buildings associated with the mine and mill processing plant (Figure 4). He described the general mill operation, as follows:

- Ore rock was stockpiled east of the hopper/crusher buildings after transfer by conveyor belt from the mine. It was loaded into dump trucks, hauled to the upper hopper area, and fed through the hopper to the primary crusher or loaded onto a conveyor belt to the primary crusher. Another conveyor

belt transferred the crushed rock to the secondary crusher building for further reduction to approximately 3/8-inch size rock.

- The 3/8-inch rock was transferred by conveyor belt to the top of the hill into the shaft and portal that serves as another hopper, then transferred by conveyor belt into the mill building where it was further crushed (crushers and ball mills) to produce a fine rock powder. The crushers and ball mills were located in the eastern and northern sections of the mill.
- The rock powder was placed into large flotation tanks and mixed with chemicals and other materials to separate ore from host rock. (b) (6) was unaware of which chemicals were used or the process employed. The end product was a slurry material that floated to the surface, and then was skimmed and filtered through a series of filtering discs. The flotation tanks and filtering discs were located in the upper sections of the mill accessed by catwalks in the western half.
- Material on the filtering discs was dried into powder form. Two large concrete cradles located south of the mill building previously held a large propane tank possibly used for the drying process. The dried powder was blown through a series of large pipes to the silo for storage, followed by the bag house to be bagged prior to shipping.

(b) (6)

also provided the following historical information:

- When the mine/mill operation closed in 1969, Calhoun Mine Road was closed by Stevens County. Residences with legal right of access for the road were private property owners on 40-acre parcels to the north and northwest of the mine/mill property. Private property owners on 10- to 20-acre parcels to the southwest and south had legal right of access on the main gravel road leading south and to Leadpoint. However, these residents occasionally drove through the mine/mill site on the main gravel road and Calhoun Mine Road. A padlock was placed on the gate along Calhoun Mine Road to prevent use of this road. (b) (6) presumed the barbed wire fence that crosses the main gravel road, approximately 1/2-mile southwest of the main site is the mine property boundary.
- (b) (6) was aware of the assay lab dump site near the former powder house that stored explosives, and believes, with some uncertainty, that the lab bottles and other debris may have been dumped by James G. Murphy, Inc. Auctioneers approximately four years ago.
- (b) (6) expressed satisfaction that the mine/mill site was being cleaned up and expressed concern regarding kids accessing or playing around the site, possibly getting hurt, particularly where the drums of unknown substances were stored in the mill building. He suspected that the kids shot bullets into some of the drums. He also expressed concern about whether pallets and piles of white crystalline material observed on-

site was barium carbonate or barium sulfate and if it was being removed during the work. He stated that barium carbonate was toxic to cattle and was possibly related to recent on-site cattle deaths.

## Sample Collection and Analytical Results

START and ERRS personnel collected representative product samples from drums and containers based on field hazard categorization results and oil samples from transformers for confirmation laboratory analysis. All samples collected by START and ERRS were stored on ice, and kept under chain-of-custody control by START until hand delivered to the laboratories for analysis; North Creek Analytical, Inc. in Spokane (all but semi-volatile organic compound [SVOC] analysis) and Bothell, Washington (SVOC analysis only). Samples were collected and analyzed in accordance with the Anderson-Calhoun Mine/Mill Removal Action Sampling and Quality Assurance Plan (Herrera 2002).

Due to below-freezing temperatures during the entire duration of removal action activities, the majority of drum contents had solidified, and therefore, samples were collected by chipping out solidified material using dedicated stainless steel spoons and placing the chunks into sample containers. Other materials that were in liquid form were collected using dedicated drum thieves. Field hazard categorization data collection sheets for drum and container materials are provided in Appendix D. Table 4 summarizes the laboratory analyses performed.

**Table 4. Laboratory analysis summary for product and oil samples collected at the Anderson-Calhoun Mine/Mill site.**

Waste Material	Analysis	Matrix	Method Number
Drums and containers	Volatile organic compounds	Product	EPA 8260B
	Flash point	Product	EPA 1010/1020
	pH	Product	EPA 9040B/9045C
	Priority pollutant metals <sup>a</sup>	Product	EPA 6010/7471
	Semi-volatile organic compounds	Product	EPA 8270C
	British thermal units (BTU)	Product	ASTM D240-02
Transformers and other electrical equipment, and soil sample SPILL	Polychlorinated biphenyls	Oil, soil	EPA 8082
Diesel UST and soil sample SPILL	Total petroleum hydrocarbons—diesel and heavy oil	Product, soil	NWTPH-Dx
White crystalline waste piles	Sulfate	Product	EPA 300
	Carbonate/bicarbonate	Product	EPA 310.1
	Priority pollutant metals plus calcium, iron, magnesium, potassium, and sodium	Product	EPA 6010/7471

<sup>a</sup> Priority pollutant metals included antimony, arsenic, barium, beryllium, cadmium, chromium, copper, nickel, selenium, silver, thallium, zinc, lead, and mercury.



## Decision Area 1—Drums and Containers

Drum contents were collected and analyzed by ERRS representatives for field hazard categorization analysis to determine disposal waste streams. A total of 150 drums and containers of unknown material were inventoried by START. Of these, 52 were analyzed using field hazard categorization by ERRS. Based on hazard categorization results, 12 samples that represented individual waste streams were collected and delivered to North Creek Analytical Laboratories in Spokane and Bothell, Washington for confirmation laboratory analysis (Table 4). The 12 samples included:

Five product samples collected from drums #28, #51, #56, #73, and #135 for confirmation laboratory analysis of pH levels.

Seven product samples collected from drums #3, #29, #53, #98, #103, #108, and #124 for confirmation laboratory analyses based on field hazard categorization results.

Table 5 summarizes field hazard categorization results and detected constituents from laboratory analysis. Data validation and laboratory reports with a complete list of results for product samples are provided in Appendix E.

## Decision Area 2—Underground Storage Tank

Because of the presence of two fill ports and the potential that the 10,000-gallon UST either contained dual compartments or that two smaller-sized tanks existed, two product samples, one from each fill port (Tank 1 and Tank 2) were collected for chemical analysis. Samples were collected using a dedicated disposable bailer attached with new nylon twine. Both samples were delivered to North Creek Analytical Laboratories, Inc. in Spokane, Washington and analyzed for total petroleum hydrocarbons in the diesel- and lube oil-range using Ecology northwest total petroleum hydrocarbons (TPH) test method NWTPH-Dx. No diesel- or lube oil-range hydrocarbons were detected above laboratory reporting limits in either sample (Table 6). The laboratory reporting limits were greater than MTCA method A cleanup levels for diesel- and lube oil-range hydrocarbons because of the limited sample volume of each sample submitted to the laboratory for analysis.

**Table 5. Field hazard categorization and analytical results for the drums and containers at the Anderson-Calhoun Mine/Mill site.**

Container ID (Sample ID)	Hazard Categorization Results	Laboratory Analytical Results - detected constituents			Material Designation
Drum-3 (PS-3)	Flammable liquid (oil-like)	Flash SVOCs BTU	>100 ND 19,000	°C  BTU/lb.	Flammable material
Drum-28 (28)	Acid (dark green-colored liquid)	pH	2.60	pH units	Acidic liquid
Drum-29 (PS-29)	Caustic liquid	pH	10.0	pH units	Corrosive material
Drum-51 (51)	Caustic liquid	pH	10.4	pH units	Corrosive material
Drum-53 (PS-53)	Flammable liquid (oil-like)	Flash n-Butylbenzene Trichloroethene	>100 0.277 0.0800	°C mg/kg mg/kg	Flammable material
Drum-56 (56)	Caustic liquid	pH	11.4	pH units	Corrosive material
Drum-73 (73)	Base liquid (silicate of soda)	pH	11.6	pH units	Corrosive material
Drum-98 (PS-98)	Flammable liquid	Flash n-Butylbenzene n-Propylbenzene Tetrachloroethene Trichloroethene 1,2,4-Trimethylbenzene	>100 0.271 0.355 0.0982 0.0708 0.685	°C mg/kg mg/kg mg/kg mg/kg mg/kg	Flammable material
Drum-103 (PS-103)	Flammable liquid	Flash Acetone Tetracloroethene Trichloroethene	>100 3.32 0.221 0.0716	°C mg/kg mg/kg mg/kg	Flammable material
Drum-108 (PS-108)	Flammable liquid	Flash VOCs	58.0 ND	°C	Flammable material
Drum-124 (PS-124)	Flammable liquid		46.0 980 32,000 13,800 64,000 271,000 109,000 7,720	°C mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Flammable material
Drum-135 (135)	White translucent base liquid	pH	11.1	pH units	Corrosive material

ND No constituents detected above the laboratory practical quantitation limits (PQLs).

**Table 6. TPH analytical results of product samples (mg/kg) collected from the 10,000-gallon underground storage tank, Anderson-Calhoun Mine/Mill site, Leadpoint, Washington.**

Sample Identification	Diesel-range Hydrocarbons	Lube Oil-range Hydrocarbons
Tank 1	ND (1,200)	ND (3,000)
Tank 2	ND (1,200)	ND (3,000)

Values reported in milligrams per kilograms.

ND (1,200) Constituent not detected above the laboratory reporting limit shown in parentheses.

### Decision Area 3—Transformers and Other Electrical Equipment

A total of 39 transformers and other electrical equipment (i.e. circuit breakers, switches, capacitors, etc.) containing dielectric oil were identified and inventoried by START. Oil samples were collected either from individual transformers, a composite of several transformers from the same manufacturer, or a composite collected from several electrical equipment located in the same area (i.e. lower hopper/primary crusher area). Oil samples from transformers were collected by opening a valve spigot located near the base of each transformer and directly filling the sample container. Oil from transformers of the same manufacturer or from various circuit breakers, switch boxes, and other equipment located in the lower hopper/primary crusher area were drained and consolidated into 55-gallon drums. A sample from the drums representing transformer or equipment groups was collected using dedicated drum thieves.

A total of 27 samples were collected including:

Five samples from transformers too large to be removed from the site or with a PCB-contaminated label affixed on the side, including T10 (substation; middle compartment) and T13, T14, T15, and T22 (PCB-contaminated label). These samples were hand delivered to the laboratory for 24-hour turn-around PCB analysis to determine appropriate disposal requirements based on the results (delivered on October 29, 2002; refer to Daily Activities section).

Twenty-two samples from transformers and other oil-filled electrical equipment including samples from the north and south compartments of T10 substation transformer and a composite sample from seven electrical equipment (T29 through T35) located in the lower hopper/primary crusher area.

Table 7 summarizes the analytical results of oil drained from the equipment for disposal. Data validation and laboratory reports with a complete list of results for oil samples are provided in Appendix E.

**Table 7. PCB results of oil (mg/kg) collected from transformers and other electrical equipment at the Anderson-Calhoun Mine/Mill site.**

Sample ID(s)	Equipment ID and Type	Polychlorinated Biphenyls <sup>a</sup> (mg/kg)
T1, T3	Composite of transformers T1 and T3	5.12
T2	Transformer T2	2.32
T4, T5, T6	Composite of transformers T4, T5, and T6	ND (1.0)
T7, T8, T9	Composite of transformers T7, T8, and T9	1.63
T10	Middle compartment of transformer T10	ND (1.0)
T10 South	South compartment of transformer T10	ND (1.0)
T10 North	North compartment of transformer T10	ND (1.0)
T13	Transformer T13	1.36
T14	Transformer T14	7.37
T15	Transformer T15	4.29
T16	Transformer T16	ND (1.0)
T19	Transformer T19	ND (1.0)
T19, T20	Composite of transformers T19 and T20	ND (1.0)
T21 <sup>b</sup>	Transformer T21	ND (1.0)
T22	Transformer T22	140
T25	Transformer T25	25.9
T26, T27, T28	Composite of transformers T26, T27, and T28	2.03
T29 to T35 (Crusher-Comp)	Composite of electrical equipment in lower hopper/ primary crusher area	ND (1.0)
T39	Transformer T39	ND (1.0)
T40	Transformer T40	ND (1.0)
T42	Transformer T42	ND (1.0)
T48	Oil circuit breaker and switch T48	ND (1.0)

Values reported in milligrams per kilogram (mg/kg).

ND (1.0) Constituent not detected above the laboratory reporting limit shown in parentheses.

<sup>a</sup> Only Aroclor 1260 PCB was identified in PCB-containing oil samples.

<sup>b</sup> Oil sample from T21 was collected prior to the accidental spill.

## Decision Area 4—Assay Lab Dump Site

It was determined by the OSC and ERRS that the potential for picric acid and other explosive chemicals typical of mine site waste among the assay lab dump site was low, considering that the bottles appeared to have been dumped rather than placed at this location. All bottles and jars that contained unknown liquids and solids were collected, transported to the transformer staging area, and ERRS conducted field hazard categorization analysis of the contents. Descriptions of the liquids and solids contained in the bottles, the estimated volume of material, and the hazard categorization results are provided on data summary sheets in Appendix D.

No product samples were collected for confirmation laboratory analysis from the assay lab dump site, due to the small amount of unknown liquids and solids and field hazard categorization results. Table 8 summarizes the hazard categorization results of 38 bottles and jars collected from the dump site and estimated volume of each hazard category waste material identified.

**Table 8. Summary of bottles and jars collected at the assay lab dump site, Anderson-Calhoun Mine/Mill site, Leadpoint, Washington.**

Hazard Category	Total Number of Filled Bottles Found	Estimated Volume (ounces)
Toxic liquid	19	194
Toxic solid (powder)	2	28
Caustic liquid	5	72
Caustic solid (powder)	1	6
Acid liquid	7	35
Flammable liquid	4	14

## Decision Area 5—White Crystalline Waste Piles

Three samples of white crystalline waste material were collected from readily accessible piles and analyzed to determine the presence or absence of barium carbonate and other metals (Table 4). Sample B1 was collected from a small pallet of white crystalline material located near the debris pile. Sample B2 was collected from a large waste pile located at the center of the wooden shed platform. Sample B3 was collected from a white chalky material located at the base of the hill slope near the lower hopper area. Samples were collected using dedicated stainless steel spoons by chipping out chunks and directly placed them into sample containers.

Sample B1 and B2 locations appeared to have similar physical characteristics, with white crystalline material cemented together due to exposure to the environment. Sample B3 was a white chalky material and considerably softer.

When exposed to acids, carbonate compounds effervesces while sulfate compounds exhibit no reaction. Prior to chemical analysis, START requested North Creek Analytical laboratory to differentiate carbonate from sulfate compounds by observing the chemical reactions of each sample when a small amount was mixed separately with hydrochloric acid (HCl) and sulfuric acid (H<sub>2</sub>SO<sub>4</sub>). Acid testing of all three samples was conducted on November 5 and 8, 2002, respectively. All three samples effervesced when mixed with each acid, indicating that carbonate and bicarbonate compounds were present. Table 9 summarizes the laboratory observations, including physical characteristics and observed chemical reactions using HCl and H<sub>2</sub>SO<sub>4</sub>. Laboratory analytical results of all three samples are summarized below in Table 10.

**Table 9. Acid testing observations of samples B1, B2, and B3 collected from white crystalline waste piles at the Anderson-Calhoun Mine/Mill site.**

Laboratory Sample Identification	Observed Physical Characteristics	Observed Chemical Reaction to HCl	Observed Chemical Reaction to H <sub>2</sub> SO <sub>4</sub>
B1	Slightly off-white in color; hard chalk-like solid.	Vigorous release of CO <sub>2</sub> ; sample totally dissolved.	Slight release of CO <sub>2</sub> ; reaction stopped quickly; most of the sample dissolved.
B2	True white in color; granular-like solid similar to sugar.	Vigorous release of CO <sub>2</sub> ; sample totally dissolved.	Vigorous release of CO <sub>2</sub> ; exhibited immediate dissolution of the sample.
B3	Slightly off-white in color; powdery-like solid similar to talcum powder.	Vigorous release of CO <sub>2</sub> ; sample totally dissolved, but final digestate was slightly opaque.	Vigorous release of CO <sub>2</sub> ; only half of the sample dissolved.

**Table 10. Metals, sulfate, and carbonate results of samples B1, B2, and B3 collected from white crystalline waste piles at the Anderson-Calhoun Mine/Mill site.**

Sample Identification	Laboratory Analytical Results (detected constituents only)		
B1	Barium	39.6	mg/kg
	Chromium	0.500	mg/kg
	Nickel	1.31	mg/kg
	Zinc	5.30	mg/kg
B2	Barium	107	mg/kg
	Calcium	397	mg/kg
	Iron	5.88	mg/kg
	Magnesium	17.6 U	mg/kg
	Sodium	92,400	mg/kg
	Thallium	17.7	mg/kg
	Zinc	2.08	mg/kg
	Sulfate	ND (1,000)	ppm
	Carbonate	184,500	ppm
	Bicarbonate	22,200	ppm
B3	Barium	1,830	mg/kg
	Calcium	214,000	mg/kg
	Chromium	0.544	mg/kg
	Iron	1,440	mg/kg
	Magnesium	11,900	mg/kg
	Potassium	22,100	mg/kg
	Sodium	299	mg/kg
	Zinc	21.8	mg/kg
	Sulfate	ND (1,000)	ppm
	Carbonate	33,508	ppm
	Bicarbonate	905,600	ppm

Values reported in milligrams per kilogram (mg/kg) or parts per million (ppm).

ND (1,000) Constituent not detected above the laboratory reporting limit shown in parentheses.

U Sample positive result was qualified as undetected because the positive result was less than 5 times the reported method blank concentration.

Carbonate (ranged from 33,508 to 184,500 ppm) and bicarbonate (ranged from 22,200 to 905,600 ppm) were present in all three samples. No sulfate was detected above the laboratory reporting limit in either sample B2 or B3. Barium was detected in all three samples, with concentrations ranging from 39.6 mg/kg in B1 to 1,830 mg/kg in B3.

One of several rock powder waste piles located along the road south of the mill building (Figure 5) was field screened for potential presence of hydrogen cyanide by ERRS using a Macherey-Nagel Visocolor ECO Cyanid Test kit. ERRS determined that the piles were of the same waste material along the road. ERRS tested the pile located south of the former dry room concrete pad and reported to START that the test results were inconclusive.

## **X-ray Fluorescence Screening and Results**

On the morning of October 29, 2002, START was tasked to conduct surface soil screening using a field portable Niton Model 702 Multi Element Bulk Sample Analyzer by FPXRF for metals concentrations in the area south of the wooden shed platform (Figure 5). During the EPA 2001 Site Investigation, laboratory analysis of surface soil in the area indicated the presence of cadmium and lead concentrations exceeding MTCA method A soil cleanup levels for unrestricted land uses (Ecology 2001a). The highest concentrations detected were lead (2,190 mg/kg) and cadmium (129 mg/kg) (USEPA 2002). Soil screening was conducted only in the EPA 2001 identified area to delineate the contaminated surface soil for possible mitigation during the removal action. No other suspected areas were investigated as part of this action.

Nineteen surface soil locations were screened according to EPA Method 6200 and following the FPXRF manufacturer's standard operating procedures (USEPA 1998). The instrument was placed directly onto the ground surface using a protective shield to determine metals concentrations within the top 6 inches below ground surface (bgs) at each location. Concentrations of metals of concern (lead, arsenic, chromium, manganese, mercury, and zinc) were recorded on data collection sheets at the time of measurement. Cadmium could not be analyzed by the model FPXRF used. FPXRF screening data collection sheets are provided in Appendix F.

The first three screening results were instrument self-calibration (XRF 1, XRF 2) and the calibration standard #2711 (XRF 3). All locations were chosen based on surface soil material, ability to dig, location relative to structures, and ongoing removal action activities. Locations XRF 4 through XRF 7 were collected between the wooden shed platform and the equipment warehouse pad at approximately 10 foot spacing, along the center of the south end of the wooden shed platform. XRF 8 and XRF 9 were collected approximately 10- and 8-inches below XRF 4 and XRF 5, respectively. XRF 10 through XRF 15 were collected using the same approximate spacing between the east end of the wooden shed platform and the secondary crusher building. XRF 15 through XRF 17 were collected within 25 feet of the north end of the wooden shed platform and XRF 18 and XRF 19 were collected within 30 feet of the west end of the wooden shed platform. XRF 14 and XRF 17 were collected approximately 6-inches below XRF 13 and

XRF 16, respectively. A summary of screening results is provided in Table 11 below. All locations exceeded one or more MTCA soil cleanup levels, except XRF 8.

**Table 11. Summary of FPXRF screening results at the Anderson-Calhoun Mine/Mill site (mg/kg).**

XRF ID Number	Arsenic	Chromium	Lead	Manganese	Mercury	Zinc
<i>MTCA soil cleanup levels for unrestricted land use</i>	20 <sup>a</sup>	2,000 <sup>a, b</sup>	250 <sup>a</sup>	11,200 <sup>c</sup>	2 <sup>a</sup>	24,000 <sup>c</sup>
XRF 4	<LOD	874	<b>1,030</b>	727	<LOD	<b>66,700</b>
XRF 5	<LOD	1,130	<b>650</b>	<LOD	<LOD	<b>46,500</b>
XRF 6	<LOD	699	<b>802</b>	<LOD	<LOD	<b>58,600</b>
XRF 7	<LOD	1,520	<b>619</b>	614	<LOD	<b>24,600</b>
XRF 8	<LOD	1,520	154	<LOD	<LOD	9,980
XRF 9	<LOD	<b>2,020</b>	147	<LOD	<LOD	11,300
XRF 10	<LOD	1,020	<b>841</b>	<LOD	<b>51</b>	20,500
XRF 11	<LOD	913	<b>1,060</b>	<LOD	<LOD	<b>39,700</b>
XRF 12	<LOD	1,190	<b>687</b>	<LOD	<LOD	<b>36,400</b>
XRF 13	<LOD	<b>3,440</b>	<b>1,270</b>	<LOD	<b>136</b>	<b>124,000</b>
XRF 14	<LOD	<b>2,070</b>	<b>1,670</b>	<LOD	<LOD	<b>58,800</b>
XRF 15	<LOD	<b>3,700</b>	<b>2,980</b>	1,150	<LOD	<b>60,800</b>
XRF 16	<b>153</b>	<b>3,220</b>	<b>1,700</b>	<LOD	<LOD	<b>52,300</b>
XRF 17	<b>75.7</b>	<b>3,070</b>	<b>259</b>	<LOD	<LOD	5,930
XRF 18	<LOD	<b>2,560</b>	<b>1,420</b>	<LOD	<LOD	<b>61,000</b>
XRF 19	<LOD	1,750	<b>1,090</b>	<LOD	<LOD	<b>41,300</b>

**Notes:**

Values reported in milligrams per kilogram (mg/kg).

Values in **boldface** type exceed MTCA method A or B soil cleanup levels for unrestricted land uses.

<sup>a</sup> – MTCA method A soil cleanup level (Ecology 2001a)

<sup>b</sup> – Value for chromium species III; XRF value reported is for total chromium.

<sup>c</sup> – MTCA method B soil cleanup level (Ecology 2001b).

LOD – Value measured was less than the instrument limit of detection.

## Transformer T21 Spill Incident

On October 28, 2002 in the late afternoon, a crane truck accidentally toppled over while dismounting pole-mounted transformer T21 (filled with approximately 44 gallons of suspected PCB-contaminated oil), dumping the transformer and releasing oil to the slope below. The incident occurred because the outriggers had not been deployed before moving the transformer. The accident was reported to the OSC and Ecology the following day. A small release of oil (estimated 2 gallons) from another pole-mounted transformer in the same area (T20) also occurred on the morning of October 29. Removal of pole-mounted transformers was then halted briefly by the OSC and START, and a revised work plan implemented to drain oil from all remaining pole-mounted transformers before dismounting them from the power poles and



platforms. Between October 29 and November 2, 2002, the affected area on the slope was excavated using a large track hoe and hand shovel. Oil-contaminated soil and rock excavated from the affected area (estimated 10 cubic yards) was treated as PCB-contaminated, temporarily stockpiled on a visqueen-covered area located at the upper hopper staging area, and subsequently loaded into a 20 cubic yard roll-off box on November 2. The oil-contaminated soil was transported to the Burlington Environmental, Inc. facility in Kent, Washington for land disposal. START collected one confirmation soil sample from the excavated area, as well as oil samples from transformers T20 and T21 for laboratory analysis. The excavated area on the hill slope then was backfilled using clean soil and rock material from an on-site source.

The soil sample SPILL and three oil samples (T21, T19/T20, and T19) were analyzed for PCBs using U.S. EPA Method 8082. In addition, the soil sample was analyzed for total petroleum hydrocarbons in the diesel and heavier-than-diesel range using Ecology method NWTPH-Dx. Analytical results indicated no PCBs detected above laboratory reporting limits in all four samples, and no diesel-, mineral oil-, or lube oil-range hydrocarbons were detected above laboratory reporting limits in the confirmation soil sample SPILL (Table 12).

**Table 12. PCB and TPH results of confirmation oil and soil samples (mg/kg) collected from transformers T19, T20, and T21, and the T21 spill site, Anderson-Calhoun Mine/Mill site.**

Sample Identification	Polychlorinated Biphenyls	Diesel-range Hydrocarbons	Mineral Oil-range Hydrocarbons	Lube Oil-range Hydrocarbons
<b>Oil Samples</b>				
T19	ND (1.0)	NA	NA	NA
T19/T20	ND (1.0)	NA	NA	NA
T21	ND (1.0)	NA	NA	NA
Soil Sample SPILL	ND (0.05)	ND (10.0)	ND (25.0)	ND (25.0)
ND (1.0)	Constituent not detected above laboratory reporting limit shown in parentheses.			
NA	Sample not analyzed for this constituent.			

## Materials and Disposal

Waste streams were determined by conducting hazard categorization analysis on drum and container contents, as well as transformer oil laboratory analysis. Based on field observations and analysis, similar wastes were bulked and/or prepared for transportation to a hazardous waste disposal facility. Transportation of all waste material was provided by Philip Environmental Services, Inc. of Renton, Washington. Waste disposal manifest tickets are provided in Appendix G. Table 13 summarizes waste streams and final disposal information for materials removed from the site.

The following methods were used to dispose waste streams during the removal action:

- Crushed drums, PPE, and miscellaneous debris were loaded into two dump trucks with pup trailers for transport offsite to the Chemical Waste Management, Inc. facility (Columbia Ridge Landfill) in Arlington, Oregon for land disposal. Class 9 waste material, including grease and sludge identified in drums (estimated amount less than 10 percent) across the site, also was disposed with these materials. Characterization was based on field hazard categorization.
- Bulk flammable liquids from drums and oil from transformers and electrical equipment containing less than 50 ppm PCBs identified across the site were vacuumed into two 5,000-gallon tanker trucks for transport offsite to the Burlington Environmental, Inc. facility in Tacoma, Washington for incineration. Empty transformer carcasses were placed in 22 DOT secondary containment boxes for transport offsite to the Burlington Environmental, Inc. facility in Kent, Washington for scrap metal recycling. Characterization was based on field hazard categorization and removal evaluation analytical results.
- Oil from transformer T22 containing greater than 50 ppm PCBs was drained into three overpack 55-gallon drums for transport offsite to the Burlington Environmental, Inc. facility in Kent, Washington for incineration. Characterization was based on removal evaluation analytical results.
- Water and diesel mixtures from the diesel UST were vacuumed into one of the two tanker trucks for transport offsite to the Burlington Environmental, Inc. facility in Tacoma, Washington for incineration and fuel recycling. Characterization was based on removal evaluation analytical results.
- Water, diesel, and greasy sludge mixtures from drums and containers identified across the site were packaged into 12 overpack drums for transport offsite to the Burlington Environmental, Inc. facility in Tacoma, Washington for incineration.

**Table 13. Waste disposal summary for the Anderson-Calhoun Mine/Mill Removal Action located in Leadpoint, Washington.**

Waste Stream	Profile	Manifest	Container ID	Estimated Quantity	Disposal Location/Method
Crushed drums and Class 9 waste material	0563CW-00	80229-02 and 80230-02	Two dump trucks and pup trailers	27,280 pounds	Chemical Waste Management Inc., Columbia Ridge Landfill, Arlington, Oregon/Land disposal
Bulk flammable liquids (waste oil, diesel, petroleum naphtha)	310451-00 and 310453-00	80290	5,000-gallon tanker truck - Drums #1 through #3, #21, #38, #39, #47, #53, #54, #98 through #114, #121, #124, #125, #129, and #130	2,500 gallons	Burlington Environmental, Inc., Tacoma, Washington/Incineration
Water and diesel mixture	310629-00	80220-02	5,000-gallon tanker truck - diesel UST	4,500 gallons	Burlington Environmental, Inc., Tacoma, Washington/Incineration and fuel recycling
Water with diesel and greasy sludge	310629-00	80295-02 (line 1B)	12 overpack drums - Drums #4, #12 through #21, #22, #23, #55, #57, #58, #115 through #119, #120, #122, and #123	600 gallons	Burlington Environmental, Inc., Tacoma, Washington/Incineration
Petroleum grease	41060-45-00	80295-02 (line 2C)	2 overpack drums - Drums #24 and #25	1,000 pounds	Chemical Waste Management Inc., Columbia Ridge Landfill, Arlington, Oregon/Land disposal
Mineral oil from transformer <500 ppm PCBs	310456-00	80296-02 (line 1B)	Three overpack drums - T22	578 kilograms	Burlington Environmental, Inc., Kent, Washington/Incineration
Transformer carcasses	310519-00	80296-02 (line 1A) and 80401K (line 1B)	22 DOT secondary containment boxes - Transformers T1 through T9, T11, T12, T16, T17, T19 through T21, T23 through T28, and T37 through T42	16,535 pounds	Burlington Environmental, Inc., Kent, Washington/Scrap metal recycling

**Table 13. Waste disposal summary for the Anderson-Calhoun Mine/Mill Removal Action located in Leadpoint, Washington (continued).**

Waste Stream	Profile	Manifest	Container ID	Estimated Quantity	Disposal Location/Method
Corrosive liquids (sodium hydroxide)	310452-00	80295-02 (line 1A) and 80401-02 (line 1A)	65 overpack drums - Drums #27, #29 through #37, #46, #48 through #51, #56, #59 through #97, and #131 through #150	3,250 gallons	Burlington Environmental, Inc., Tacoma, Washington/Neutralization
Corrosive solids (sodium hydroxide)	310452-00	80296-02 (line 1C)	9 overpack drums - Drums #40 through #45	3,000 pounds	Burlington Environmental, Inc., Kent, Washington/Neutralization
Sulfuric and hydrochloric acid mixture	310632-00	80296-02 (line 1D)	1 overpack drum - Drum #28	50 gallons	Burlington Environmental, Inc., Kent, Washington/Neutralization
Lead acid batteries	310699-00	80296-02 (line 2B)	1 pallet load - 18 batteries	80 pounds	Burlington Environmental, Inc., Kent, Washington/Neutralization
Soil contaminated with <50 ppm PCBs from transformers	310633-00	80292	One roll-off container - oil-contaminated soil from T21 release site	10 cubic yards	Chemical Waste Management Inc., Arlington, Oregon/Land disposal in hazardous waste landfill
Used PPE, visqueen contaminated with sodium hydroxide debris and low levels PCBs	311056-00	80401K (line 1C and 1D)	1 DOT secondary containment box and 1 overpack drum	300 pounds	Chemical Waste Management Inc., Columbia Ridge Landfill, Arlington, Oregon/Land disposal

- Petroleum grease from drums #24 and #25 was placed into two overpack drums for transport offsite to Columbia Ridge Landfill in Arlington, Oregon for land disposal. Characterization was based on field hazard categorization results.
- Corrosive (basic) liquids, including waste sodium hydroxide solution located mainly inside the northeast corner of the mill building, were packaged into 65 overpack drums for transport offsite to the Burlington Environmental, Inc. facility in Tacoma, Washington for neutralization. Characterization was based on field hazard categorization and removal evaluation analytical results.
- Corrosive (basic) solids, including sodium hydroxide pellets located inside the northeast corner of the mill building, were packaged into nine overpack drums for transport offsite to the Burlington Environmental, Inc. facility in Kent, Washington for neutralization. Characterization was based on field hazard categorization results and field observations.
- A sulfuric and hydrochloric acid mixture, located in one 55-gallon drum on a pallet staged on the former maintenance repair shop building foundation pad, was packaged in one 55-gallon drum for transport offsite to the Burlington Environmental, Inc. facility in Kent, Washington for neutralization. Characterization was based on field hazard categorization and removal evaluation analytical results.
- Waste flammable liquids and solids (i.e., methanol, benzene solvent, acetone, toluene) from bottles and jars collected at the assay lab dump site were consolidated in a 5-gallon plastic bucket containing Solidisorb material. The bucket was overpacked along with other bulk flammable liquids and debris for transport offsite to the Burlington Environmental, Inc. facility in Kent, Washington for incineration. Characterization was based on field hazard categorization results.
- Lead-acid car and truck batteries, a majority located in the vicinity of the former dry room and on the wooden shed platform, were packaged on a plastic-lined pallet for transport offsite to the Burlington Environmental, Inc. facility in Kent, Washington for neutralization and recycling. Characterization was based on field observations.
- Oil-contaminated soil from the transformer T21 oil release site was transported to the Chemical Waste Management, Inc. hazardous waste landfill in Arlington, Oregon for land disposal. Soil was removed using an excavator and loaded into one visqueen-lined roll-off container for transportation from site. Characterization was based on confirmation analytical results of oil samples collected from transformers T20 and T21.

## Potentially Responsible Party Search

Information regarding the potentially responsible party search is found in the confidential enforcement addendum (Appendix I).

## Health and Safety

Weather conditions, heavy equipment operation, and chemical exposure were the major health and safety concerns during the removal action. The following briefly describes these concerns and actions taken to minimize potential impacts:

- Temperature extremes—Temperatures as low as 0° F were encountered during the removal action. In order to minimize cold exposure, workers were encouraged to wear appropriate clothing and to monitor their own condition and that of their coworkers; vehicles were available for use as warm-up areas; and site personnel were informed daily during health and safety meetings of cold exposure symptoms, to take adequate breaks, and to drink sufficient quantities of fluids. As a result of these precautions, no cold exposure problems occurred.
- Chemical exposure—To minimize potential exposures to chemicals and biological hazards, site workers donned level B personal protective equipment, including splash resistant Tyvek® suits, protective gloves, and self-contained breathing apparatus while opening drums and performing hazard categorization. Personnel donned level B personal protective equipment, including splash resistant Tyvek® suits, protective gloves, and air purifying respirators while draining and sampling transformers, while transporting and bulking materials, and while collecting confirmation samples. Worker breathing zones were monitored for carbon monoxide, hydrogen sulfide, oxygen, and explosive atmosphere using a four-gas monitor, and for hydrogen cyanide using a hydrogen cyanide monitor. A photo-ionization detector was available for monitoring volatile organic compounds; however, the cold temperatures prevented any significant volatilization of materials. As a result of these precautions and monitoring procedures, chemical exposures were minimized.
- Heavy machinery operations—During daily health and safety meetings, planned activities were discussed, including equipment work zones. Workers were reminded to stay out of the way of equipment, maintain visual contact with the operator, and to wear hard hats while working around excavators and boom trucks. One incident involving a crane truck occurred while the truck was removing a transformer from a pole-mounted platform. The front outriggers were not deployed before moving the

transformer, and subsequently the truck tipped over on its side during the process. No injuries related to this incident were reported.

- Biological and physical hazards—Where possible, physical hazards were removed to prevent slip, trip, and fall accidents and work was conducted using the buddy system. Due to the cold temperatures no insects or reptiles were active during the removal activities. No injuries resulted from biological or physical hazards.

## Resources Committed

Estimated Costs to Date	
EPA	\$ 8,175
START	\$ 43,110
ERRS	<u>\$109,000</u>
<b>TOTAL</b>	<b>\$160,175</b>

Note: The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

## Difficulties Encountered

Difficulties encountered during the removal action that impacted total costs and time spent on the Anderson-Calhoun Mine/Mill Removal Action include the following:

- A total of 232 drums and containers were identified, evaluated, and removed from the site, including 146 containing unknown liquids or solids. This was more than twice the number of drums previously estimated during the preliminary site assessment (100 drums).
- A total of 48 transformers and other oil-filled electrical equipment were identified, evaluated, and the majority removed from the site. This was more than twice the number of transformers and other electrical equipment previously estimated during the preliminary site assessment (18).
- The assay lab dump and powder house were not previously identified in earlier site assessments. Information gathered from the county assessor's office and title company was necessary to determine whether the dump site was located on mine or private property, and if right of access agreements signed by private property owner(s) were required prior to removal. Additional assessment also was necessary to determine health and safety issues associated with the potential presence of picric acid and other explosive chemicals typical of mine waste sites, and determine appropriate removal and disposal requirements.
- An accidental spill of transformer oil from T21 occurred near the end of the first day of the removal action. Cleanup of the T21 oil release site required additional oversight, documentation, and sampling by START. Additional ERRS labor and equipment was necessary for the cleanup and additional costs for disposal of oil-contaminated soil excavated from the release site were incurred.
- The OSC changed the EQM project manager after the spill incident. Project logistics and work activities had to be re-communicated to the new EQM project manager, who at the time, also was managing another removal action in Colville, Washington.
- Interview results from (b) (6) regarding recent on-site cattle deaths associated with possible ingestion of white crystalline waste piles across the site. Additional research, sampling, and analysis were necessary to evaluate whether barium carbonate was present in these piles and its potential toxicity and impact to human health and the environment.

Due to the discoveries and difficulties stated above, the scope and duration of the response was greater than envisioned, requiring additional field time spent for documenting, field screening, sampling, validating, and evaluating analytical data; the oversight, documentation, and sampling for the cleanup of T21 release site; researching mine property boundaries and information on barium carbonate; and costs associated with additional laboratory analysis.



## Conclusions

On October 27, 2002, the START, EPA, and ERRS contractors mobilized to the Anderson-Calhoun Mine/Mill site to conduct a removal action in Leadpoint, Washington.

START conducted oversight activities from October 28 through November 2, 2002, including documentation of site activities in field logbooks, and with 35-millimeter photographs and video tapes; conducted oversight of field hazard categorization analysis; conducted health and safety monitoring for on-site workers; conducted field screening for metal concentrations by FPXRF; collected product samples from drums and containers based on field hazard categorization results and oil samples from transformers and other oil-filled electrical equipment for confirmation laboratory analysis; and conducted oversight of removal, bulking, transportation, and disposal of waste material.

Project activities included:

- Removal and offsite disposal of drums and containers containing hazardous substances
- Removal and offsite disposal of drums and containers containing non-hazardous substances
- Removal and offsite disposal of water contaminated with diesel fuel and other flammable liquids contained in the diesel UST
- Removal and offsite disposal of oil contained in transformers and other electrical equipment, as well as transformer carcasses after being drained of oil
- Removal and offsite disposal of chemicals contained in bottles and jars associated with the assay lab dump
- Sample collection, laboratory analysis, and assessment of white crystalline material from waste piles identified across the site
- Excavation and offsite disposal of oil-contaminated soil from the T21 release area

Total volume of waste materials removed from the site included:

- 27,280 pounds of crushed drums and Class 9 waste material
- 2,500 gallons of flammable liquid and transformer oil contaminated with less than 50 ppm PCBs

- 5,100 gallons of diesel fuel, transformer oil contaminated with less than 50 ppm PCBs, greasy sludge, and water mixtures
- 1,000 pounds of petroleum grease
- 578 kilograms of transformer oil contaminated with less than 500 ppm PCBs
- 16,535 pounds of transformer carcasses (drained of oil)
- 3,250 gallons and 3,000 pounds of corrosive base liquids and solids
- 50 gallons of sulfuric and hydrochloric acid mixture
- 80 pounds of lead-acid batteries
- 10 cubic yards of oil-contaminated soil
- 300 pounds of used PPE, visqueen contaminated with sodium hydroxide and low level PCB debris.

All materials observed in drums, containers, and the UST were removed from the site for disposal, mitigating the potential for future release to the environment. The UST may have previously contained diesel and possibly other flammable liquids used for operating equipment associated with mining operations. All transformers and other electrical equipment left on-site were drained of oil, which was bulked with other flammable liquids for disposal, reducing the potential for release from these equipment.

Following site removal activities, Fritz Wolff of the Washington State Department of Natural Resources, Abandoned Mine Lands Project, told the START that he had observed the white crystalline piles on a previous visit and noted the label for sodium silicate on a number of the deteriorated sacks. He stated that the white crystalline material on adjacent pallets were distinctly different from materials in the paper sacks and strongly resembled sodium carbonate, a reagent widely used in flotation mills for controlling pH. He noted that the white crystalline material appeared similar to materials collected and analyzed from another mine site, with the results strongly indicating sodium carbonate or bicarbonate (Wolff personal communication 2002).

(b) (6) believes that cattle lick the material because it tastes salty. The mineral barite, including the ore imported to the mill site in the early 1980s, consists of barium sulfate (Hurlbut 1971). Barium sulfate is commonly used by oil and gas industries as weighted drilling mud (Lewis 1997). Barium carbonate is found in nature as the mineral witherite, and is used as an ingredient in rat poison, among other products (Lewis 1997).

Analytical results for the three white crystalline waste piles indicated low concentrations of barium and high concentrations of carbonate/bicarbonate detected; no sulfate was detected. The

potential for each waste pile to be contaminated with other materials was high (i.e. sodium carbonate) and therefore, it is difficult to determine whether the detected barium and carbonate concentrations were elevated enough to suggest the presence of barium carbonate in each waste pile or pose a potential environment hazard. To confirm toxicity of the material, bioassay testing would be required.

Further assessment or removal are warranted, as follows:

- Determine the nature and extent of soil contamination including: locations previously identified during the 2001 site investigation such as the evaporation/settlement pond and tailings piles; beneath and near all ground transformers and associated pads with PCB concentrations greater than 1 ppm; assay lab dump and debris pile; oil-stained area southeast of the mill building near the former empty drum stockpile.
- Determine the nature and extent of potential sediment and surface water contamination in wetland and other surface water features such as the North Fork Deep Creek, drainage ditches, and water-filled mine pits.
- Determine the nature and extent of potential subsurface soil and groundwater contamination associated with the estimated 10,000 gallon underground storage tank.
- Evaluate the water-filled upper and lower mine pits for potential contamination, including the presence of oil-filled electrical equipment such as transformers.
- Determine the biotoxicity of the several white crystalline waste piles and similar material found within the silo.

In addition to the preceding environmental concerns, there is a physical hazard associated with unrestricted access to the site such as the water-filled mine pits and dilapidated buildings. Therefore, recommend that the current owner take whatever precautions deemed appropriate to protect the public against such hazards.

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## APPENDIX A

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# Waste Stream Inventories— Drums and Containers

## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002  
Project Name LEADPT  
Project No. C00-01732-032  
TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
1	11	55	75 *	steel	blue	open	no label	Waste oil/flammable	SE of Mill Building/ on pallet with #2/ soil stained beneath drum
2	11	55	75 *	steel	black	bung	no label	Waste oil/flammable	SE of Mill Building/ on pallet with #1/ soil stained beneath drum
3	11	55	50 *	steel	blue	open	no label	Waste oil/flammable	SE of Mill Building/ soil stained beneath drum
4	12	55	50 *	steel	black	bung	no label	Liquid/water	SE of Mill Building/ on its side/bottom of drum bulge
5	12	5	50 *	steel	blue	open, pail	no label	Sludge/Class 9	SE of Mill Building, near #4/on its side with no lid
6	12	5	50 *	steel	blue	open, pail	no label	Sludge/Class 9	SE of Mill Building, near #4
7	13, 14	30	30	steel	white, blue, red	open	Mobil logo label	Tan-colored sludge and water/Class 9	SE of Mill Building/ no lid and dented on side
8	15	5	50 *	steel	white	open, liquid pail	RPM Spray N Stay gear lubricant	Sludge/Class 9	Next to debris pile, SE of Mill Building/dented
9	15	5	50 *	steel	blue	open	Chevron logo label; ?AVI-MOTIVE Grease	Sludge/Class 9	Next to debris pile, SE of Mill Building
10	16	55	80	steel	blue, rusted	open	no label	Light gray rock powder/Class 9	Next to debris pile, SE of Mill Building/on its side with contents spilling out, no lid
11	16	55	80	steel	blue, rusted	open	no label	Light gray rock powder/Class 9	Next to debris pile, SE of Mill Building/on its side with contents spilling out, no lid



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12	17, 18	55	50 *	steel	blue	open	Chevron logo label	Sludge/Class 9	Next to wooden platform/on its side with lid next to it; contents (sludge) on ground
13	17, 18	55	30 *	steel	white, rusted	open	Mobil logo, lubricating grease	Brown gelatinous substance—sludge/Class 9	On wooden platform/on its side with no lid, next to pallets of white crystalline material
14	17, 18	5	60	steel	light green	open, paint can/pail	label covered with red-colored substance	Hardened red-colored substance (possibly dried paint)—sludge/Class 9	On wooden platform
15	17, 18	5	50 *	steel	light gray	open, paint can/pail	no label	Sludge/Class 9	On wooden platform
16	17, 18	5	50 *	steel	rusted	closed, liquid spout	Partial label--?EXRON II Fluid	Sludge/Class 9	On wooden platform
17	17, 18	5	75	steel	black	open, paint can/pail	NAPA, Martin Senour Sealers, Body undercoating & deageners	Black-colored sludge/Class 9	On wooden platform
18	17, 18	5	50 *	steel	black, rusted near lid	open, paint can/pail	Partial label—?Soap Company	Sludge/Class 9	On wooden platform
19	17, 18	5	50 *	steel	white	open, paint can/pail	Conoco logo, gear lubricant	Sludge/Class 9	On wooden platform
20	17, 18	55	75 *	steel	rusted, light green	closed	National Chem Search	Sludge/Class 9	On wooden platform/on its side, bottom of drum bulged
21	17, 18	55	100 *	steel	black	bung	Stenciled label—Aero Promoter	Oil and water/flammable	On ground next to wooden platform
22	19	5	75 *	steel	light green	open, paint can/pail	no label	Sludge/Class 9	On wooden platform

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## DRUM/CONTAINER INVENTORY RECORD

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 Project No. C00-01732-032  
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Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
23	19	5	75 *	steel	black	open, paint can/pail	no label	Sludge/Class 9	On wooden platform
24	20	55	100	steel	rusted, possibly black	bung	Chevron logo, grease	Oil/flammable	On drum rack N of Mill Building/ on its side, next to #25
25	20	55	100	steel	rusted, possibly black	bung	Chevron logo, label gone	Oil/flammable	On drum rack N of Mill Building/ on its side, next to #24
26	21	5	75	steel	rusted, blue	bung	no label	Light gray rock powder	Lower hopper/large crusher area/ rusted through, on its side with light gray granular material spilling out
27	21	55	75 *	steel	black	bung	Silicate of soda	Liquid/caustic	Lower hopper/large crusher area/ drum inside hopper, on its side
28	22, 33, 45, D4	55	75	plastic- lined steel	black, white top	bung	no label	Dark green-colored liquid/acid	Maintenance/Repair Shop concrete building pad/on pallet with #29
29	22, 33, D4	55	35	steel	black, rusted top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #28
30	22, 33, D4	55	50	steel	black	no lid (possible bung), top covered with black plastic sheeting held in place with flat metal cable tie	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #31
31	22, 33, D4	55	50	steel	black, rusted top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #30



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Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
32	22, 33, D4	55	60	steel	black, white/rusted top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #33 and 34
33	22, 33, D4	55	50	steel	black, white/rusted top	bung	label worn off, hard to read	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #32 and 34
34	22, 33, D4	55	55	steel	black, rusted top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #32 and 33
35	22, 33, D4	55	100	steel	black, white top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #36 and 37, dented on top with slight bulge
36	22, 33, D4	55	75	steel	black, white top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #35 and 37
37	22, 33, D4	55	100	steel	black, white/rusted top	bung	no label	Liquid/caustic	Maintenance/Repair Shop concrete building pad/on pallet with #35 and 36, dented on side near top with slight bulge
38	D6	55	30 *	steel	blue	bung	no label	Liquid/flammable	NE corner inside Mill Building, near stairs leading to cat walk and circuit breakers/switches
39	D6	55	30 *	steel	blue	bung	label worn off, hard to read	Liquid/flammable	NE corner inside Mill Building, near stairs leading to cat walk and circuit breakers/switches

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40	D6	55	75 *	steel	black	open	PELS, caustic soda beads—sodium hydroxide	Powder (beads)/ caustic	NE corner inside Mill Building on pallet against east wall with #41 to 45/bullet holes on side of drum
41	D6	55	75 *	steel	black	open	PELS, caustic soda beads—sodium hydroxide	Powder (beads)/ caustic	NE corner inside Mill Building on pallet against east wall with #40 and 42 to 45/bullet holes on side of drum
42	D6	55	75 *	steel	black	open	PELS, caustic soda beads—sodium hydroxide	Powder (beads)/ caustic	NE corner inside Mill Building on pallet against east wall with #40, 41 and 43 to 45/bullet holes on side of drum
43	D5, D6	55	100	steel	black	open	sodium hydroxide	Powder (beads)/ caustic	NE corner inside Mill Building on pallet against east wall with #40 to 42 and 44 to 45
44	D5, D6	55	100	steel	black	open	sodium hydroxide	Powder (beads)/ caustic	NE corner inside Mill Building on pallet against east wall with #40 to 43 and 45
45	D5, D6	55	100	steel	black	open	sodium hydroxide	Powder (beads)/ caustic	NE corner inside Mill Building on pallet against east wall with #40 to 44
46	D5, D6	55	50 *	plastic- lined steel	rusted (possible black)	bung	no label	Liquid/caustic	NE corner inside Mill Building/ bullet holes on side
47	D5, D6	55	50 *	plastic- lined steel	black, rusted	bung	no label	Liquid (oil)/ flammable	NE corner inside Mill Building
48	D5, D6	55	75	plastic- lined steel	rusted	bung	no label	Liquid (pH = 14)/ caustic	NE corner inside Mill Building/ on pallet with #49 and 50



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49	D5, D6	55	100	plastic- lined steel	rusted	bung	no label	Liquid (pH = 14)/ caustic	NE corner inside Mill Building/ on pallet with #48 and 50
50	D5, D6	55	100	plastic- lined steel	rusted	bung	no label	Liquid (pH = 14)/ caustic	NE corner inside Mill Building/ on pallet with #48 and 49
51	D5, D6	55	75	plastic- lined steel	rusted, black	bung	no label	Liquid (pH = 11)/ caustic	NE corner inside Mill Building/ drum crushed
52	D5, D6	55	empty	plastic- lined steel	rusted, black	bung	no label	empty	NE corner inside Mill Building/ drum crushed
53	D5	55	25	plastic- lined steel	rusted, black	bung	no label	Liquid (oil)/ flammable	NE corner inside Mill Building/ bullet holes on side of drum
54	D5	55	80 *	steel	rusted	bung	no label	Liquid (oil)/ flammable	NE corner inside Mill Building
55	D5	55	50	plastic- lined steel	black	bung	no label	Frozen liquid (ice; pH = 7)	NE corner inside Mill Building
56	D5	55	75	steel	black	bung	no label	Liquid (pH = 10)/ caustic	NE corner inside Mill Building
57	D5	55	50	steel	blue	open	no label	Frozen clear liquid (ice)	NE corner inside Mill Building/ no lid present
58	D5	55	35	steel	blue	open	no label	Frozen clear liquid (ice)	NE corner inside Mill Building/ no lid present
59	D6, D7	55	40 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
60	D7	55	50 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes

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61	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
62	D7	55	20 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
63	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
64	D7	55	10 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
65	D7	55	40 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
66	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
67	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
68	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
69	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes



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70	D7	55	30 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
71	D7	55	20 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
72	D5, D7	55	10 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
73	D7	55	50	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums/bullet holes
74	D7, D9	55	10	plastic-lined steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums
75	D7, D9	55	50	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums
76	D7, D9, D10	55	40	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums
77	D7, D8, D9, D10	55	40 *	steel	black	bung	no label; white label with "Lot No. 190-James G. Murphy, Inc. Auctioneers, Kenmore, WA"	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums/bullet holes



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78	D9, D10, D11	55	40 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
79	D9, D10, D11	55	20 *	steel	black	bung	Silicate of soda	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
80	D9, D10, D11	55	30 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
81	D9, D10, D11	55	50 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
82	D9, D10, D11	55	50 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row/bullet holes
83	D9, D10, D11	55	100 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row
84	D9, D10, D11	55	100 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row
85	D9, D10, D11	55	30 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
86	D9, D10, D11	55	40 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes



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87	D9, D10, D11	55	20 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
88	D9, D10, D11	55	30 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/bullet holes
89	D9, D10, D11, D14	55	10 *	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, bottom row/white, translucent solidified liquid spilled out of bullet hole near bottom of drum
90	D9	55	80	steel	black	bung	no label	Liquid (solidified due to below-freezing temp.)/base	NE corner inside Mill Building, large center collection of drums, top row front
91	48, D10, D12, D13	55	100	steel (plastic-lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums
92	48, D10, D12, D13	55	100	steel (plastic-lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums
93	48, D12	55	100	steel (plastic-lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums
94	48, D12	55	100	steel (plastic-lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums





## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
95	48, D12	55	100	steel (plastic- lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums
96	D12	55	100	steel (plastic- lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums
97	D12	55	100	steel (plastic- lined?)	black	bung	Stenciled label—Aero Promoter	Liquid/base	NE corner inside Mill Building, large center collection of drums
98	D10, D12	55	50	steel (plastic- lined?)	black	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
99	D7, D10, D12	55	25	steel (plastic- lined?)	black	bung	no label	Liquid (pH = 7)/ flammable	NE corner inside Mill Building, north of large center collection of drums
100	D10, D13	55	40	steel (plastic- lined?)	black	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
101	D10	55	90 *	steel	black	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums/on its side
102	D10, D13, D15	55	100 *	steel	aqua blue	bung	label worn off—can not read label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
103	D13	55	100 *	steel	black or dark blue	bung	label worn off—can not read label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums/on its side



## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002

Project Name LEADPT

Project No. C00-01732-032

TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
104	D15	55	40 *	steel	aqua blue	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums/on pallet with #105 and 106
105	D15	55	50 *	steel	aqua blue	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums/on pallet with #104 and 106
106	D15	55	100 *	steel	aqua blue	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums/on pallet with #104 and 105
107	D13, D15	55	60	steel	black or dark blue	bung with center bung	Super Floc 1— (polyacrylamide in water in oil emulsion) American Cyanamide Company	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
108	D13, D15, D16	55	50	steel	black or dark blue	bung with center bung	no label (drum appeared similar to 107)	Liquid (pH = 6)/ flammable	NE corner inside Mill Building, north of large center collection of drums/on pallet with bullet hole near bottom of drum and opaque, partially solidified material spilled out of bullet hole
109	D13	55	30	steel	black or dark blue	bung with center bung	no label (drum appeared similar to 107)	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
110	D13	55	60	steel	black or dark blue	bung with center bung	Super Floc 1	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
111	D13	55	100	steel	black or dark blue	bung with center bung	Super Floc 1	Liquid (pH = 7)/ flammable	NE corner inside Mill Building, north of large center collection of drums

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March 19, 2003

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Herrera Environmental Consultants

## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002

Project Name LEADPT

Project No. C00-01732-032

TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
112	D13	55	75	steel	black or dark blue	bung with center bung	Stenciled label— Super Floc 1	Liquid (pH = 7)/ flammable	NE corner inside Mill Building, north of large center collection of drums
113	D13	55	100 *	steel	black or dark blue	bung with center bung	Super Floc 1	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
114	D13	55	100	steel	black or dark blue	bung	no label	Liquid/flammable	NE corner inside Mill Building, north of large center collection of drums
115	D13	55	10	steel	rusted	open	no label	About 3 inches of multi-colored sludge/ Class 9	NE corner inside Mill Building, north of large center collection of drums
116	D17	55	20	steel	black	bung, top of drum half cut open	no label	Brown/black-colored sludge/Class 9	On cat walk, west side of Mill Building near flotation tanks
117	D17	55	35	steel	blue	open	no label	Brown liquid and sludge (water)/Class 9	On cat walk, west side of Mill Building near flotation tanks/ bottom of drum bulged
118	D17	55	40	steel	black	bung with center bung	label unreadable	Frozen liquid (ice)	On cat walk, west side of Mill Building near flotation tanks/ on its side
119	D17	55	10	steel	black	bung with center bung	label unreadable	Frozen liquid (ice)	On cat walk, west side of Mill Building near flotation tanks/ on its side
120	36	5	50	steel	white	open, paint can/pail	no label	Black-colored, frozen liquid (ice)/Class 9	SW corner inside Mill building



## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
121	37	55	50	steel	rusted, black with white top	bung	no label	Oil and water/ flammable	East of debris pile, next to pond/ on its side, drum crushed at its center, cut open
122	D37	5	75	steel	white with yellow strips	open, paint can/pail	Conoco logo label	Brown gelatinous substance/Class 9	Immediately outside south-central of Mill Building/on its side, with some of the brown substance spilling out onto ground
123	D41	3	80	steel	black	open, paint can/pail	no label	Hardened black tar- like substance/Class 9	SW of Mill Building, near base of hillslope
124	D41	1	100	steel	rusted, metal	oblong can	no label	Liquid/flammable	SW of Mill Building, near base of hillslope
125	D41	1	50	steel	rusted, metal	oblong can	no label	Liquid/flammable	SW of Mill Building, near base of hillslope/dented and crushed at top
126	D24	1	empty	steel	rusted, metal	oblong can	XYLON (flammable) label	empty	Scattered among car batteries west of pad-mounted transformers T4 to T9
127	D24	1	empty	steel	white	oblong can	no label	empty	Scattered among car batteries west of pad-mounted transformers T4 to T9
128	D24	1	empty	steel	rusted, metal	oblong can	no label	empty	Scattered among car batteries west of pad-mounted transformers T4 to T9
129	D24	1	25	steel	rusted, black/ white	oblong can	"Liquid Wrench" (flammable)	Liquid/flammable	Scattered among car batteries west of pad-mounted transformers T4 to T9
130	D24	1	100	steel	rusted, metal	open, paint can/pail	no label	Liquid/flammable	Among disposed car and truck batteries west of pad-mounted transformers T4 to T9



## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
131	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
132	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
133	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
134	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
135	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
136	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
137	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building



## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
138	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
139	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
140	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
141	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
142	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
143	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
144	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building

## DRUM/CONTAINER INVENTORY RECORD

Date October 28, 2002  
Project Name LEADPT  
Project No. C00-01732-032  
TDD No. 02-10-0006

Drum/ Container ID Number	Photo ID	Capacity (gallons)	Approximate Volume (%)	Container Material	Container Color	Container Opening Type	Labels/Markings	Phase Description/ Hazard Categorization Conclusion <sup>a</sup>	Location/Condition/ Additional Information
145	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
146	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
147	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
148	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
149	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building
150	48, D7, D9	55	100	steel	black	bung	Silicate of soda	White translucent liquid (solidified due to below-freezing temp.)/base	Center group of drums, NE corner of Mill Building

Note:

<sup>a</sup> Phase description and hazard categorization conclusions were provided by ERRS.

\* Indicated drum was removed prior to determining content volume. The approximate volume shown was based on visual record (e.g., video tape) and professional judgment.

Date: 10-28-02

Project Name: LEADPT

TDD Number: TDD-02-10-0006

Drums

HAZ CAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		1		55	Steel drum open top	blue	open	no label	FLAMMABLE LIQUID WASTE OIL	SE of mill building on pallets soil stained
		2		55	Steel closed top	black	bung	no label	appears oil FLAMMABLE WASTE OIL	SE of mill building on pallet w/ 1 soil stained
		3		55	Steel drum	blue	open	no label	FLAMMABLE WASTE OIL	SE of mill building on ground soil stained
		4		55	Steel	black	bung	no label	WATER	laying on side - bulge on bottom
		5		5	Steel	blue	open - paint can	no label	SLUDGE CLASS 9	no lid, on side
		6		5	Steel	blue	open - paint can	no label	SLUDGE CLASS 9	
		7		30	Steel	white, blue, red	open	Mobile	tan colored - solid CLASS 9 SLUDGE + WATER	no lid, dented 30%
		8		5	Steel	white	open - liquid	Spray N Stay gear lubricant 2000 RPM	SLUDGE CLASS 9	dented
		9		5	Steel	blue Chevron	open	? AVI-MOTIVE GREASE	SLUDGE CLASS 9	
		10		55	Steel	open blue, rounded	open	no label	CLASS 9 DIRT / ROCK POWDER	no lid, on side, light gray solid, spilt out

\* Indicate type and model of monitoring instrument used.



Date: 10-28-02

Project Name: LEADPT

TDD Number: TDD-02-10-0006

Dumms

## HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		11		55	steel	blue	open	no label	DIRT/ROCK POWDER	no lid appear? similar to #10 light gray solid
		12		55	steel	blue	open	Cherren but label gone	SLUDGE CLASS 9	on side of lid nearby contents - sludge on ground.
		13		55	steel	rusted-white	open	Mobil Lubricating grease	brown, jelly-like substance SLUDGE CLASS 9	on side - open, next to pallets of white granular material
		14		5	steel	light green	paint can open	no label covered w/ paint?	SLUDGE CLASS 9	no lid - red colored dried paint?
		15		5	steel	light gray	open paint can	no label	SLUDGE CLASS 9	
		16		5	steel	rusted	2 exrns → it's paint closed/lid and		SLUDGE CLASS 9	
		17		5	steel	black	open paint can	NAPA Body Martin undercoating Sinoor & degniro	SLUDGE CLASS 9	3/4 full black sludge
		18		5	steel	black	open paint can	Partially label Soap Co.	SLUDGE CLASS 9	rusted near lid
		19		5	steel	white	open paint can	Conoco Extra Lubricant	SLUDGE CLASS 9	
		20		55	steel	light green	closed	National Chem Starch	SLUDGE CLASS 9	lying on side - bulging on bottom

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02

Project Name: LEAD PT

TDD Number: TDD-02-10-0006

Drums  
~~Drums~~  
DMP

HAZMAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
	DMP AT	21		55	steel	black	bung	stenciled APRO PROMPTER	oil + water FLAMMABLE	
		22		5	steel	light green	open paint can	no label	SLUDGE CLASS 9	
		23		5	steel	black	open paint can	no label	SLUDGE CLASS 9	
		24		55	steel	rustled with teal	bung	chevron grease	OIL FLAMMABLE	100%
		25		55	steel	rustled can't tell	bung	chevron label gone	OIL FLAMMABLE	100%
		26		5	steel	rustled was blue	bung	label gone	DIRT/ROCK POWDER	rustled through - inside gray granular material
		27		55	steel	black	bung	silicate of soda	CORROSIVE/CAUSTIC	lying on side inside lepper
		28		55	steel	black	bung	no label	ACID dark green colored	on pallet w/ 29 75%
		29		55	steel	black	bung	no label	CAUSTIC/CORROSIVE	on pallet w/ 28 33%
		30		55	steel	black	no lid - top covered w/ black plastic sheeting and flat metal plate	no label	CAUSTIC/CORROSIVE	@ 50% liquid on pallet w/ 31

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02

Project Name: LEADPT

TDD Number: TDD-02-10-0000

Drums

## HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		31		55	Steel Dimpled fine	black white top	bung	no label	CAUSTIC/CORROSIVE	on pallet w/ 30 50%
		32		55	Steel Dimpled fine	black white/side	bung	no label	CAUSTIC/CORROSIVE	on pallet w/ 33, 34 60%
		33		55	Steel Dimpled fine	black white/side	bung	label worn off	CAUSTIC/CORROSIVE	on pallet w/ 32, 34 50%
		34		55	Steel Dimpled fine	black white top	bung	no label	CAUSTIC/CORROSIVE	on pallet w/ 32, 34 50%
		35		55	Steel Dimpled fine	black white top	bung	no label	CAUSTIC/CORROSIVE 100%	on pallet w/ 36, 37 dent of slight bulge on top
		36		55	Steel Dimpled fine	black white top	bung	no label	CAUSTIC/CORROSIVE 75%	on pallet w/ 35, 37 dent on side
		37		55	Steel Dimpled fine	black white/side	bung	no label	CAUSTIC/CORROSIVE 100%	on pallet w/ 35, 36 dent near top bulge
		38		55	Steel	blue	bung	no label	FLAMMABLE	NE corner of mill building - sitting near stairs to cat walk & circuit breakers
		39		55	Steel	blue	bung	hard to read - worn off	FLAMMABLE	
		40		55	Steel	black	rim open	PELS corrosive soda beads - sodium hydroxide	CAUSTIC/CORROSIVE	bullet holes

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02

Project Name: LEAD PT

Drums

TDD Number: TDD-02-10-0006

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		41		55	steel	black	ring open	sodium hydroxide	CAUSTIC CORROSIVE	NE corner of mill bldg bullet holes
		42		55	steel	black			CAUSTIC CORROSIVE	↓
		43		55					CAUSTIC CORROSIVE	
		44		55					CAUSTIC CORROSIVE	
		45		55	↓	↓	↓	↓	CAUSTIC CORROSIVE	
		46		55	steel plastic liner	ruined	bung	no label	CAUSTIC CORROSIVE	bullet hole ruined
		47		55	↓	black	↓	↓	OIL FLAMMABLE	
		48		55	steel w/ plastic liner	ruined	bung	no label	PH=14 CAUSTIC CORROSIVE 75%	on pallet
		49		55					PH=14 CAUSTIC CORROSIVE 100%	↓
		50		55	↓	↓	↓	↓	PH=14 CAUSTIC CORROSIVE 100%	↓

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02

Project Name: LEADPT

TDD Number: TDD-02-10-0006

Drum

HAZ CAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		51		55	steel w/ plastic liner	rusty black	bung	no labels	corrosive / pH=7 CAUSTIC 75%	crushed
		52		↓	↓	↓	↓	↓	EMPTY	EMPTY
		53		↓	↓	↓	↓	↓	FLAMMABLE / OIL 25%	bullet hole
		54		55	steel	rusty	bung	no label	FLAMMABLE / OIL	
		55		55	steel plastic liner	black	bung	no label	pH=7 SOLID ICE 50%	
		56		55	steel	black	bung	no label	CAUSTIC / pH=10 CORROSIVE	full dump 75% 11-1-02
		57		55	steel	blue	no lid open	no label	Frozen - ICE 50%	1/2 full liquid (possibly water)
		58		55	steel	blue	no lid open	no label	Frozen - ice 33%	1/3 full liquid (clear water)
		59		55	steel	black	bung	no label	BASE / CORROSIVE	bullet hole near bottom base
		60		↓	↓	↓	↓	↓	BASE / CORROSIVE	↓

\* Indicate type and model of monitoring instrument used.

Date: 10-26-02

Project Name: LEAD PT

TDD Number: TDD-02-10-0006

Drums

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER/ DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		601		55	Steel	black	bung	Silicate of soda	BASE/CORROSIVE	NE corner of mill bldg. one bullet hole near bottom - 3" hole, drum base on each row of drums
		602		55					BASE/CORROSIVE	on top of another row of drums
		603		55					BASE/CORROSIVE	
		604		55					BASE/CORROSIVE	
		605		55					BASE/CORROSIVE	
		606							BASE/CORROSIVE	
		607							BASE/CORROSIVE	
		608							BASE/CORROSIVE	
		609							BASE/CORROSIVE	
		70							BASE/CORROSIVE	

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02Project Name: LEADPTTDD Number: TDD-02-10-0006

Drums

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		71		55	steel	black	bung	silica of soda	BASE/CORROSIVE	NE corner of mill bldg.
		72		↓	↓	↓	↓	↓	BASE/CORROSIVE	
		73		↓	↓	↓	↓	↓	BASE/CORROSIVE	
		74		55	steel	black	bung	no label	BASE/CORROSIVE	
		75		55	steel	black	bung	no label	BASE/CORROSIVE	
		76		55	steel	black	bung	silica of soda no label	BASE/CORROSIVE	
		77		55	steel	black	bung	lot no. 190 Induct. purifier	BASE/CORROSIVE	33%
		78		55	steel	black	bung	no label	BASE/CORROSIVE	bullet holes.
		79		55	steel	black	↓	silica of soda	BASE/CORROSIVE	
		80		55	steel	black	↓	no label	BASE/CORROSIVE	↓

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02Project Name: LEADPTTDD Number: TDD-02-10-0006

Drums

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER/ DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		81		55	steel	black	bung	no labels	BASE/CORROSIVE	NE stacked 2 drums high on top of bottom drums
		82							BASE/CORROSIVE	
		83							BASE/CORROSIVE	
		84							BASE/CORROSIVE	
		85							BASE/CORROSIVE	
		86							BASE/CORROSIVE	
		87							BASE/CORROSIVE	
		88							BASE/CORROSIVE	
		89							BASE/CORROSIVE	bullet - translucent opaque white solidified
		90							BASE/CORROSIVE	spill out from bullet hole

\* Indicate type and model of monitoring instrument used.



Date: 10-28-02

Project Name: LEADPT

TDD Number: TDD-02-10-0000

Drums

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%). ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		91		55	steel plastic liner?	black	bung	stenciled Aero promoter	BASE / CORROSIVE	NE corner of unit bldg 100%
		92							BASE / CORROSIVE	100%
		93							BASE / CORROSIVE	100%
		94							BASE / CORROSIVE	100%
		95							BASE / CORROSIVE	100%
		96							BASE / CORROSIVE	100%
		97							BASE / CORROSIVE	100%
		98		55	steel plastic liner	black	bung	no label	Flammable	50%
		99		55					pH=7 Flammable	25%
		100		55					Flammable	40%

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02Project Name: LEADPTTDD Number: TDD-02-10-0006

Drums

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%). ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		101		55	steel	black	bung	no label	FLAMMABLE	NE corner of mill bldg. on its side 0
		102		55	steel	aqua blue	bung	can't read label	FLAMMABLE	
		103		55	↓	↓	↓	↓	FLAMMABLE	
		104		55	steel	aqua blue	bung	no label	FLAMMABLE	
		105		55	↓	↓	↓	↓	FLAMMABLE	
		106		55	↓	↓	↓	↓	FLAMMABLE	
		107		55	steel	black to dk. blue	center bung	Super Flocc 1 L American Cyanamid Co. <del>Fluorimide</del>	(Polyacrylamide in water emulsion) FLAMMABLE	60%
		108		55	steel	black to dk blue	center bung	no label	FLAMMABLE pH=10	bullet hole w/ orange white powdery solidified material 50%
		109		↓	↓	↓	↓	no label	FLAMMABLE	30%
		110		↓	↓	↓	↓	Super Flocc 1	FLAMMABLE	60%

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02

Project Name: LEADPT

TDD Number: TDD-02-10-0006

Drums

## HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		111		55	steel	blue to dk blue	center bung	Super Floc 1 label	PH=FLAMMABLE 100%	back NE corner of mill building
		112		55	↓	↓	↓	Super Floc 1 label	FLAMMABLE 75%	↓
		113		55	steel	Dark to dk blue	center bung	Super Floc 1 label	FLAMMABLE	↓
		114		55	steel	blue to dk blue	bung	no label	FLAMMABLE	full - 100%
		115		55	steel	tan/white	open	no label	CLASS 9	open - no liquid 3" sludge of multi-colored
		116		55	steel	black	brown half bung	no label	brown/black sludge SLUDGE CLASS 9	on back of K. units west mill building
		117		55	steel	blue	solid bung/open	no label	brown liquid sludge WATER CLASS 9	bottom bridge out walk
		118		55	steel	black	center bung	unavailable	Frozen - ICE	units side out walk 40%
		119		↓	↓	↓	↓	↓	Frozen - ICE	↓ 10%
		120		6	steel	white	lid on side drum com lid	no label	1/2 metal - black color - may have water that is frozen CLASS 9	located at SW corner of mill bldg. inside

\* Indicate type and model of monitoring instrument used.

Date: 10-29-02Project Name: LEADPITDD Number: TDD-02-10-0006

Drums

HAZCAT conclusion

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		121		55	steel	rusted black w/ white top	bung	no label	OIL + WATER FLAMMABLE	just east of debris pile, next to porous wetland grasses in center - open 50% full - oil & water.
		122		5	steel	white w/ yellow strips	paint can lid	Corroco	brown gelatinous substance spotted over some - 5 - central	located on its side, no lid @ 75% full
		123		3	steel	black	paint can lid	no label	black tar-like material asphalt? CLASS 9	Sac of mill bldg. T4 thru T9 location
		124		1	metal steel	rusted	paint can type square shaped	no label	FLAMMABLE	Full
		125		1	metal steel	rusted			FLAMMABLE	50% Full - dented / crushed at cap
EMPTY		126		1	can't tell	rusted	paint thinner can type	no label	Flammable on label EMPTY	empty scattered among car batteries next to T4 thru T9 location
EMPTY		127		1	metal steel	white			EMPTY	empty
EMPTY		128		1	metal steel	rusted			EMPTY	empty
		129		1	metal steel	black / white rusted top		Liquid wrench	FLAMMABLE	25% Fuel
		130		1	metal steel	rusted	faint can	no label	FLAMMABLE	Full

\* Indicate type and model of monitoring instrument used.

Par 3/12/13

Date: 11-1-02Project Name: LEADPTTDD Number: TDD-02-10-0006

DRUMS

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		131		55	steel	black	bung	silicate of soda	BASE / translucent CORROSIVE white - solidified	center group - NE corner 100% of mill bldg.
		132		55	steel	black	bung		BASE / CORROSIVE in cold temperature	
		133		55	steel	black	bung		BASE / CORROSIVE	
		134		55	steel	black	bung		BASE / CORROSIVE	
		135		55	steel	black	bung		BASE / CORROSIVE	
		136		55	steel	black	bung		BASE / CORROSIVE	
		137		55	steel	black	bung		BASE / CORROSIVE	
		138		55	steel	black	bung		BASE / CORROSIVE	
		139		55	steel	black	bung		BASE / CORROSIVE	
		140		55	steel	black	bung		BASE / CORROSIVE	

\* Indicate type and model of monitoring instrument used.

Date: 11-1-02

Project Name: LEADPT

TDD Number: TDD-02-10<sup>DNP</sup>-0006

DRUMS

HAZCAT CONCLUSION

TIME	MONITORING INSTRUMENT READING*	CONTAINER/ DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		141		55	steel	black	bung	silicate of soda	BASE / CORROSIVE	Center group - NE corner 100% of mill bldg.
		142		55	steel	black	bung		BASE / CORROSIVE	
		143		55	steel	black	bung		BASE / CORROSIVE	
		144		55	steel	black	bung		BASE / CORROSIVE	
		145		55	steel	black	bung		BASE / CORROSIVE	
		146		55	steel	black	bung		BASE / CORROSIVE	
		147		55	steel	black	bung		BASE / CORROSIVE	
		148		55	steel	black	bung		BASE / CORROSIVE	
		149		55	steel	black	bung		BASE / CORROSIVE	
		150		55	steel	black	bung	↓	BASE / CORROSIVE	↓ ↓

\* Indicate type and model of monitoring instrument used.

## APPENDIX B

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# Waste Stream Inventories— Transformers and Other Electrical Equipment

## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002

Project Name LEADPT

Project No. C00-01732-032

TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T1	1, 2, D25	Pad-mounted transformer	100	36	5.12	White/light gray; appeared new	Allis-Chalmers/ certified blue PCBs label < 50 ppm	SW of mill building, situated on concrete pad with T2 and T3; adjacent to electrical room	Drained of oil and removed from site
T2	1, D25	Pad-mounted transformer	100	est. 36	2.32	White/light gray; appeared new	General Electric—Spirakore/ certified blue PCBs label < 50 ppm	SW of mill building, situated on concrete pad with T1 and T3; adjacent to electrical room	Drained of oil and removed from site
T3	1, 3, D25	Pad-mounted transformer	100	36	5.12	White/light gray; appeared new	Allis-Chalmers/ certified blue PCBs label < 50 ppm	SW of mill building, situated on concrete pad with T1 and T2; adjacent to electrical room	Drained of oil and removed from site
T4	4, D24	Pad-mounted transformer	5	est. 7.5	ND (1.0)	Gray; appeared old	Line Material Co./ no PCBs label	SW of mill building, situated on concrete pad with T5 to T9; adjacent to former dry room	Drained of oil and removed from site
T5	4, D24	Pad-mounted transformer	5	7.5	ND (1.0)	Gray; appeared old	Line Material Co./ no PCBs label	SW of mill building, situated on concrete pad with T4, and T6 to T9; adjacent to former dry room	Drained of oil and removed from site
T6	4, D24	Pad-mounted transformer	5	est. 7.5	ND (1.0)	Gray; appeared old	Line Material Co./ no PCBs label	SW of mill building, situated on concrete pad with T4, T5, and T7 to T9; adjacent to former dry room	Drained of oil and removed from site

up1\_200-01732-032 apcb transformer inventory.doc

March 19, 2003

B-1

Herrera Environmental Consultants



## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
Project Name LEADPT  
Project No. C00-01732-032  
TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T7	4, 5, D24	Pad-mounted transformer	25	20	1.93	Gray; appeared old	Westinghouse/ no PCBs label	SW of mill building, situated on concrete pad with T4 to T6 and T8 to T9; adjacent to former dry room	Drained of oil and removed from site
T8	4, 5, D24	Pad-mounted transformer	25	20	1.93	Gray; appeared old	Westinghouse/ no PCBs label	SW of mill building, situated on concrete pad with T4 to T7 and T9; adjacent to former dry room	Drained of oil and removed from site
T9	4, 5, D24	Pad-mounted transformer	25	20	1.93	Gray; appeared old	Westinghouse/ no PCBs label	SW of mill building, situated on concrete pad with T4 to T8; adjacent to former dry room	Drained of oil and removed from site
T10	6	Large pad-mounted transformer (substation)	unknown	est. 1,200	ND (1.0)	Light gray; appeared fairly new	General Electric/ no PCBs label	WNW of mill building; in the substation	Had 3 chambers, each with its own drain plug; left on-site after pumped oil out and filled chambers with clay absorbent
T11	7	Wire coil	200	no oil or fluid present	NA	Dark gray; car battery sized	General Electric/ no PCBs label	WNW of mill building; in the substation adjacent to T10 transformer	Removed from site
T12	7	Wire coil	200	no oil or fluid present	NA	Dark gray; car battery sized	General Electric/ no PCBs label	WNW of mill building; in the substation adjacent to T10 transformer	Removed from site

## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T13	8	Large pad-mounted transformer	200	170	1.36	Light gray; appeared new, @ 6 feet tall	Kuhlman Electric Co./ no PCBs label	NNE of mill building, situated on its own concrete pad with T14 to T16	Left on-site after drained the oil and filled inside chamber with clay absorbent
T14	8	Large pad-mounted transformer	200	170	7.37	Light gray; appeared new, @ 6 feet tall	Kuhlman Electric Co./ no PCBs label	NNE of mill building, situated on its own concrete pad with T13, T15, and T16	Left on-site after drained the oil and filled inside chamber with clay absorbent
T15	8, 9	Large pad-mounted transformer	200	170	4.29	Light gray; appeared new, @ 6 feet tall	Kuhlman Electric Co./ no PCBs label	NNE of mill building, situated on its own concrete pad with T13, T15, and T16	Left on-site after drained the oil and filled inside chamber with clay absorbent
T16	8, 39	Pad-mounted transformer	25	9	ND (1.0)	Dark gray, rusted; appeared old	Westinghouse/ no PCBs label	NNE of mill building, situated on own concrete pad separate but in same fenced enclosure with T13 to T15	Drained of oil and removed from site
T17	10	Pole-mounted transformer	25	est. 10 empty shell	NA	Dark gray; appeared old	Westinghouse/ no PCBs label	NW of mill building, alongside main road on its side still attached to power pole	Lid found open and empty of oil; removed from site
T18	33, D4	Large pad-mounted transformer	unknown	est. 130 empty shell	NA	Dark gray; empty of equipment and oil inside	Spokane Transformer Co./ no PCBs label	NNW of mill building; alongside main road adjacent to maintenance repair shop building foundation pad	Empty shell, left on-site



## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T19	24, 28, 29, 35	Large pole-mounted transformer	100	44	ND (1.0)	Dark gray, rusted; appeared old	General Electric/ no PCBs label	NW of mill building up on hilltop, adjacent to upper hopper area; on a pole-mounted platform with T20 and T21	Drained of oil before dismounting from platform and removed from site
T20	24, 29	Large pole-mounted transformer	100	44	ND (1.0)	Dark gray, rusted; appeared old	General Electric/ no PCBs label	NW of mill building up on hilltop, adjacent to upper hopper area; on a pole-mounted platform with T19 and T21	Dismounted from platform while filled with oil—spill oil onto ground surface hill slope below; drained remaining oil and removed from site
T21	23, 29, 31	Large pole-mounted transformer	100	44	ND (1.0)	Dark gray, rusted; appeared old	General Electric/ no PCBs label	NW of mill building up on hilltop, adjacent to upper hopper area; on a pole-mounted platform with T20 and T21	Dismounted from platform and toppled crane, spilled oil onto ground surface hill slope below; (assumed transformer to be full—44 gals.); excavated oil-soaked soil; removed soil and transformer from site
T22	D19	Large pad-mounted transformer	200	114	140	Light gray; appeared new; @ 6 feet tall	General Electric/ yellow PCB-contaminated label	Farther NW of mill building, NNW of upper hopper area, and west of silo	Noted minor oil stains on concrete pad beneath bottom valve; drained of PCB-contaminated oil and filled inside chamber of absorbent material



## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T23	38, D20, D21	Pole-mounted transformer	10	9	NA	Dark gray; appeared old	Westinghouse/ no PCBs label	South of hopper, on its side still attached to power pole on hill slope	OSC noted oil stains on ground surface beneath transformer, but lid was still intact; dismantled from pole, drained of oil, and removed from site
T24	NP	Pole-mounted transformer	25	est. 10; empty shell	NA	Dark gray; appeared old	Westinghouse/ no PCBs label	West of upper hopper area, alongside main road	Removed from site
T25	D22	Pole-mounted transformer	50	34	25.9	Dark gray; appeared old	General Electric/ no PCBs label	Uphill WSW of mill building and south of office/assay building concrete pad, on its side still attached to power pole	No spills or stained soil beneath transformer—found lid still intact; dismantled from pole and found full with oil; drained oil and removed from site
T26	D23	Pole-mounted transformer	75	est. 40	2.03	Dark gray; appeared old	Spokane Transformer Co./ no PCBs label	Uphill WSW of mill building—attached to power pole; appeared to supply power uphill to engineers office	Drained of oil while still on pole; dismantled from pole and removed from site
T27	D24	Pole-mounted transformer	10	11	2.03	Dark gray, rusted; appeared old	General Electric—Spirakore/ no PCBs label	Attached to power pole above pad-mounted transformers T4 to T9, adjacent to dry room	Drained of oil while still on pole; dismantled from pole and removed from site



## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T28	D25	Pole-mounted transformer	10	10	2.03	Dark gray, rusted; appeared old	Line Material Co./ no PCBs label	SSW of mill building, attached to power pole above pad-mounted transformers T1 to T3, adjacent to the electrical building	Drained of oil while still on pole; dismantled from pole and removed from site
T29	D26	Oil circuit breaker Type FK-20	unknown	est. 2	ND (1.0)	Dark gray; oil-stained around lid/box	General Electric/ no PCBs label	In lower hopper/large crusher area, on east wall	Drained circuit breaker box of oil; removed the box from site (left the remaining equipment attached to wall)
T30	D26	Oil circuit breaker Type FK-20	unknown	est. 2	ND (1.0)	Dark gray; oil-stained around lid/box	General Electric/ no PCBs label	In lower hopper/large crusher area, on east wall	Drained circuit breaker box of oil; removed the box from site (left the remaining equipment attached to wall)
T31	D26, D27	Oil immersed linestarter	2,200 volts	est. 20	ND (1.0)	Dark gray, rusted; oil-stained around lid/box	Westinghouse/ no PCBs label	In lower hopper/large crusher area, on east wall	Drained equipment box of oil; removed box from site (left the remaining equipment attached to wall)
T32	D26, D27	Shorthead controller	unknown	est. 30	ND (1.0)	Color could not be determined, rusted; appeared old	General Electric/ no PCBs label	In lower hopper/large crusher area, on east wall	Drained equipment box of oil; removed box from site (left the remaining equipment attached to wall)

## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T33	D26	Under-voltage trip switch	unknown	est. 2	ND (1.0)	Dark gray; appeared old	Roller-Smith/ no PCBs label	In lower hopper/large crusher area, on east wall; equipment box located behind switch panel	Drained equipment box of oil; removed box from site (left the remaining equipment attached to wall)
T34	D26, D28	Wall-mounted transformer	2,200 volts (primary); 110 volts (secondary)	est. 5; only est. 0.5 gallon left when found	ND (1.0)	Dark gray, bottom reservoir appeared rusted; appeared old; only 2 inches of oil left in bottom reservoir	Cutler-Hammer/ no PCBs label	In lower hopper/large crusher area, on north wall	Noted oil stains on concrete below transformer (possible some oil spilled into water-filled crusher vault); drained oil from bottom reservoir and left remaining equipment attached to wall
T35	D26, D28	Oil circuit breaker Type FK-20	unknown	est. 2	ND (1.0)	Dark gray, rusted; appeared old	General Electric/ no PCBs label	In lower hopper/large crusher area, on north wall	Drained oil from equipment box and left remaining equipment attached to wall
T36	D26	Switch	unknown	est. 2 empty	NA	Dark gray; appeared old	Roller-Smith/ no PCBs label	In lower hopper/large crusher area, on its side near conveyor belt that leads to secondary crusher building	Equipment box attached behind switch was found empty of oil; left equipment onsite

## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
Project Name LEADPT  
Project No. C00-01732-032  
TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T37	D31	Transformer	15	est. 20 empty	NA	Color could not be determined, rusted	General Electric/ no PCBs label	WSW of pole-mounted transformers T19 to T21; in vicinity of T38	Inside equipment on ground beside empty shell; possible residual coating of oil in the bottom of the shell; removed shell from site
T38	D32	Capacitor	30	3	NA	Color could not be determined, rusted; appeared old	Cornell-Dubilier Electric Corp./ no PCBs label	WSW of pole-mounted transformers T19 to T21; in vicinity of T37	Drained oil from equipment box and removed from site
T39	D29, D30	Large platform-mounted transformer	75	60	ND (1.0)	Rusted; appeared old	General Electric/ no PCBs label	South downhill of pole-mounted transformers T19 to T21, west uphill from maintenance repair shop concrete pad; on a platform with T40	Noted oil-stained soil beneath transformer; clean-cut power pole near transformer; drained of oil and removed from site
T40	D29, D30	Platform-mounted transformer	75	est. 30	ND (1.0)	Gray; appeared old	Spokane Transformer Co./ no PCBs label	South downhill of pole-mounted transformers T19 to T21, west uphill from maintenance repair shop concrete pad; on a platform with T39	Noted oil-stained soil beneath transformer; clean-cut power pole near transformer; drained of oil and removed from site
T41	NP	Switch	unknown	est. 2; empty	NA	Rusted; appeared old	No manufacturer or PCBs label	WSW of pole-mounted transformers T19 to T21; in vicinity of T37 and T38	Removed box from site

## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
Project Name LEADPT  
Project No. C00-01732-032  
TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T42	D33	Pole-mounted transformer	25	20	ND (1.0)	Light gray, rusted; appeared old	Allis-Chalmers/ no PCBs label	Est. 0.5 mile uphill, SW of mill site and pole-mounted transformer T26; supplied power to engineers office	Drained of oil while still attached on pole; dismantled and removed from site
T43	D34	Switch for main disc	2,300 volts	est. 6	NA	Dark gray, somewhat rusted; appeared old	Westinghouse/ no PCBs label James G. Murphy, Inc. auctioneer label	NE corner inside mill building, on upper cat walk, north wall	Oil reservoir box located behind switch panel, drained oil from box and removed box from site (left remaining equipment attached to wall)
T44	D34	Circuit breaker for main disc	440 volts	no oil or fluids present	NA	Dark gray, rusted; appeared old	Roller-Smith/ no PCBs label James G. Murphy, Inc. auctioneer label	NE corner inside mill building, on upper cat walk, north wall	Left on-site
T45	D35	Oil circuit breaker Type FK-20—for rod mill disc	unknown	est. 2	NA	Dark gray, rusted; appeared old, noted oil stains around lid/box	General Electric/ no PCBs label	NE corner inside mill building, on upper cat walk, east wall	Drained oil from equipment box and removed box from site (left remaining equipment attached to wall)
T46	D35	Circuit breaker Type F20—for rod mill starter	unknown	est. 2	NA	Dark gray, rusted; appeared old, noted oil stains around lid/box	Allis-Chalmers/ no PCBs label	NE corner inside mill building, on upper cat walk, east wall	Drained oil from equipment box and removed box from site (left remaining equipment attached to wall)





## TRANSFORMER/ELECTRICAL EQUIPMENT INVENTORY RECORD

Date October 28, 2002  
 Project Name LEADPT  
 Project No. C00-01732-032  
 TDD No. 02-10-0006

Transformer ID No.	Photo ID	Type of Electrical Equipment	KVA Power Output	Oil Capacity (gallons)	PCB Content (mg/kg)	Color and Condition (relative age)	Manufacturer/ Labels	Location	Spills/ Additional Information
T47	D36	Capacitor	unknown	3 empty	NA	Rusted; appeared old	Cornell-Dubilier Electric Corp./ no PCBs label	WSW of pole-mounted transformers T19 to T21; in vicinity of T37 and T38	Found during second site sweep during removal—left on-site
T48	NP	Oil circuit breaker (type FK-20) and Switch for regrind starter	unknown	est. 2 (circuit breaker); est. 2 (switch box)	ND (1.0)	Dark gray, rusted; appeared old	General Electric/ no PCBs label	NE corner of mill building, on main floor, north wall	Found on Nov. 2, 2002 after main drum area was cleared (switch panel was somewhat hidden); drained boxes of oil and removed them from site (left remaining equipment attached to wall)

KVA Kilovolt amps.  
 PCBs Polychlorinated biphenyls.  
 est. Estimated.  
 ND (1.0) Constituent not detected above laboratory report limit shown in parentheses.  
 NA Sample not analyzed for the constituent.  
 " Oil capacity of transformer or electrical equipment was based on information on metal label plate affixed to the side of the equipment or estimated based on visual observations of similar size equipment observed across the site.  
 NP No photograph available.

Date: 10-28-02Project Name: LEADPTTDD Number: TDD-02-10-0006Electrical  
Transformers

TIME	MONITORING INSTRUMENT READING*	CONTAINER/ DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
9:50		T1		100 KVA	36 gals	white	Atkins - (closed)	blue certified label PCB < 50 ppm	SW of mill building	fairly new, on concrete pad
		T2		100 KVA	unknown cap. 36 gals	white	GE (closed)	certified PCB < 50 ppm		fairly new, on concrete pad
		T3		100 KVA	36 gals	white	Atkins - (closed)	certified PCB < 50 ppm		fairly new, on concrete pad
		T4		5 KVA	unknown cap.	possibly gray	36 gals.	no label Line Material Co.	up on hill - SW of mill building	older transformers
		T5		5 KVA	7 1/2 gal	gray	36 gals	no label Line Material Co.		older transformers
		T6		5 KVA	unknown cap.	possibly gray	36 gals	no label Line Material Co.		older transformers
		T7		15 KVA	20 gals	gray		Atkins fact Washing house		
		T8		15 KVA	20 gals	gray		no PCB Washing house		
		T9		15 KVA	20 gals	gray		Washing house		
		T10		200 KVA	? cap.	light gray		no label GE transformer	large transformer in substation NW of mill building	has 3 compartments vac truck operator - estimated pumped out 1,200 gallons from all 3 compartments.

\* Indicate type and model of monitoring instrument used.

Date: 10-28-02

Project Name: LEAD PT

TDD Number: TDI-02-10-0006

Electrical  
Transformers

location

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
	No fluids - wide coils	T11		200 KVA			small can battery size	no label other than manufacturer	in substation	
		T12		200 KVA			small can battery size			
		T13		200 KVA	170 gal light gray		large 6' tall	no PCB label - just manufacturer KUHLMAN ELECTRIC CO.	N-NW of mill building	some leakage at base
		T14		200 KVA	170 gal light gray		large 6' tall			
		T15		200 KVA	170 gal light gray		large 6' tall			
		T16		25 KVA	rusty metal	rusty	small	Westinghouse no label		rusty - lid is loose; @ 60% full
		T17		25 KVA	70 gal gray	gray	small	Westinghouse no label	NW of mill building along main road	top popped open pole fell down
		T18		200 KVA	? cap empty	gray	@ 5' tall	Spokane Transformer Co. no label	N-NW of mill building below 3 pole mounted transformers	top is open - top on ground - plug on bottom is gone - appears rusted
	no label - these transformers are empty	T19							up on pole - SW of mill building about T1, T2	
		T20							up on pole above T4-T9	older, appear rusted

\* Indicate type and model of monitoring instrument used.

Date: 10-18-02

Project Name: LEAD PT

TDD Number: TDD-02-10-0006

Electric  
Transformers

location

TIME	MONITORING INSTRUMENT READING*	CONTAINER/ DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
	re-label	T21	DMP	75 kVA?					up on pole SW of milk building	appear in good shape
		T19		100 kVA	44 gal	Dark gray/whitish		General Electric	located together as mounted on top of hill NW of milk building west of floatation bldg.	appeared rusted / old.
		T20		100 kVA	44 gal					fell off - @ 6' from top
		T21		100 kVA	44 gal					re-painted - dumping black oil on steep hill slope
		T22		200 kVA	114 gal	Light gray		yellow PCB contaminated label		small leakage from valve into concrete pit
		T23		1000 kVA	9 gal	Gray		General Electric Weather House	fallen pole south of power on steep hill slope	one note some spillage top is still attached
		T24		2500 kVA	Cap? 10-15 gal	Dark gray		Nothing there	fall west of T11/T21/21	laying on its side - appeared empty inside of equipment
		T25		500 kVA	34 gal	Dark gray		GE	fallen W-SW of milk building - up on hill	fallen down power line possibly empty?
		T26		75 kVA	7 gal	Dark gray		General Transformer	up on pole on hill SW of milk building	empty 11/02
		T27		10 kVA 11 gal	Dark gray			GE Transformer	up on pole above T14 to T9	old, rusted

Date: 10-26-02

Project Name: LEADST

TDD Number: TDD-02-D-0006

Electric  
Trenkner

Location

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge) —	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		T28		10 gal				Line Material	S-SW of mill blac	Old - 2001
		T29		2 gal			Type FR-20	GE oil circuit breaker	In hopper area - East	Leakage around
		T30		2 gal			Type FR-20	GE oil circuit breaker		Leakage around
		T31		2 gal				oil immersed type line starter		Leakage around
		T32		2 gal				GE Shortland controller		old
		T33		2 gal				Roller-Smith under-voltage trip switch		Leakage around switch
		T34		5 gal				Cutler-Hammer		2" oil on bottom
		T35		1 gal			Type FR-20	GE oil circuit breaker		under box container cracked with oil
		T36		5 gal (but empty)				Roller-Smith switch	South east of hopper	lying on side - empty

\* Indicate type and model of monitoring instrument used.

Par 14

Date: 10/29/02Project Name: LEADPTTDD Number: TDD-02-10-0006Electric  
Transformers

## LOCATION

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, slug)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		T37		15 KVA CAP			Transformer gasketed	GE	WSW of T19-T21	Transformer container is empty of equipment. Equip. is lying on ground around it. Residual oil inside old & rusted
		T38		30 Gallons 30 KVA			CAPACITOR	DMP Cornell-Dublier Electric Corp.		
		T39		75 KVA 60 Gallons				GE	South of T19-T21 on hillside	Leaking, soil stained beneath. Transformer may have been placed on ground - not fallen
		T40		75 KVA CAP DMP X 27 gals				Spokane Transformer Co. ↓		on same platform with T39
		T41		empty 25 KVA DMP 20 gals			Swit. box			empty lying near switch panel
		T42		25 KVA DMP 20 gals				Allis-Chalmers	@ 1/2 mile uphill - SW of mill site adjacent to believe to be assay testing lab	old, rusted, up on pole at slight angle
		T43		X 10 gals			switch for 2300 volts main disc	Westinghouse	N wall on catwalk	
		T44					switch for 400 volts main disc	James G. Murphy Roller-Smith	NE corner of mill bldg.	three 3"-4" diameter pipes connected to switch box - all 3 cut across - appear possible draining oil
		T45		X 2 gals			type FK-20 for Rod mill disc	GE oil circuit breaker	E wall on catwalk NE corner of mill bldg	some oil staining around lid
		T46		X 2 gals			type F20 for Rod Mill Starter	Allis-Chalmers oil circuit breaker		some oil staining around lid.

\* Indicate type and model of monitoring instrument used.

Date: 10-31-02

Project Name: LEADPT

TDD Number: TDD-02-10-0006

## Electric Transformers

Location

TIME	MONITORING INSTRUMENT READING*	CONTAINER / DRUM ID	PHOTO ID	CAPACITY (gal)	CONTAINER MATERIAL	CONTAINER COLOR	CONTAINER OPENING TYPE(S) (bung, cap, open, closed)	LABELS / MARKINGS	PHASE DESCRIPTION (number of phases, color, consistency, sludge)	SPILL / LEAKING, APPROXIMATE VOLUME (%), ADDITIONAL INFORMATION (terrain, drainage, pallet, etc.)
		T47		3 gals total		rusty	capacitor	Cornell-Dubilier Electric Corp.	Next to T37 (grout) transformer identified in second sweep after T37 was picked up!	
										Noticed pole-mounted transformer partially under water in mine pit — noticed clean cut stump of power pole SW at rim of mine pit — transformer T22 most likely supplied power to this pole-mounted transformer in mine pit.
		T48		2 gals			switch GE	for reground starter	transformer was behind a bunch of drums in NE corner of mill bldg.	
				2 gals			oil circuit breaker GE	FE-20	box above switch box	

## APPENDIX C

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# OSC Pollution Report





United States Environmental Protection Agency  
Region 10 Emergency Response Unit

**POLLUTION REPORT**

**I. HEADING**

Date: 13 March 2003  
Subject: Anderson-Calhoun Mill Time-Critical Removal Action  
From: Earl Liverman, OSC, USEPA, Region 10, Emergency Response Unit  
Tel: 208/664-4858 or 206/696-3061  
TO: See distribution list

**POLREP No. 1 - INITIAL AND FINAL**

**II. BACKGROUND**

Site ID: 9H  
EPA ID No: WAN001002309  
Task Order No: 0011  
Response Authority: CERCLA  
NPL Status: Not listed nor proposed for the NPL  
State Notification: State of Washington Department of Ecology  
Action Memorandum Status: Approved 23 September 2002  
Removal Start Date: 27 October 2002  
Demobilization Date: 2 November 2002  
Removal Completion Date: 2 November 2002

**III. SITE INFORMATION**

**A. Incident Category**

Fund-lead time-critical removal action at a former open pit lead and zinc mine. The purpose of the action was to: mitigate exposure to mine-waste-contaminated soils; mitigate exposure to PCBs through removal and off-site disposal of transformers and other oil-filled electrical equipment; and mitigate exposure to other potentially hazardous substances through appropriate characterization and disposal.

## **B. Site Description**

### **1. Site location**

The Anderson-Calhoun mine/mill is located near Leadpoint, Stevens County, Washington (48°55'9.84" N, 117°35'28.70" W). The site is an approximate 50-acre former open pit lead and zinc mine and mill owned by Stevens County, Washington.

The Anderson-Calhoun produced between 1948 and 1952. Total production to the end of 1951 was about 100 tons. The Anderson-Calhoun operated as a mine and mill until 1968. Combustion Engineering, Inc., operated the mill from the early to mid-80s to process barite from an out-of-country mine (Canada). Several abandoned buildings remain standing, including the mill building and other mill structures.

The site is generally flat and the surrounding terrain is mountainous. The surrounding area is sparsely populated and land use is predominantly agricultural. There are several permanent and seasonal residences located within 1 to 2 miles of the site. The entire site is accessible to the public.

### **• Description of threat**

There have been no previous private or government response actions conducted at the site.

#### *Threats to Public Health or Welfare*

The threat of exposure to trespassers and recreationists (hiking, hunting) exists through ingestion and inhalation of the mine waste contaminants (lead and cadmium), PCBs, and other potentially hazardous substances found at and surrounding the mill. The site is not secure and there is widespread evidence of trespass and vandalism.

#### *Threats to the Environment*

Ecological receptors could become exposed to site contaminants through direct contact and ingestion of known and unknown substances potentially related and unrelated to mining activities.

## **C. Preliminary Assessment/Site Inspection Results**

### *2001 Site Investigation*

During September 2001, EPA conducted a Site Investigation (SI) of the Anderson-Calhoun Mine/Mill. The investigation included collection of seven surface soil samples within the tailings piles and two stained soil areas, four sediment samples adjacent to the evaporation/settlement ponds and ditch, and one surface water sample from the water-filled lower mine pit. All samples were analyzed for target analyte listed (TAL) metals; four

surface soil samples collected within the two stained areas also were analyzed for pesticides and polychlorinated biphenyls (PCBs). The surface soil data indicate the presence of elevated metal concentrations in surface soils when compared to the following Washington Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC) Method A clean-up levels for *Unrestricted Land Uses* and *Industrial Properties*.

Substance	Unrestricted Land Uses	Industrial Properties	Highest Detected Concentrations
Cadmium	20 mg/kg	20 mg/kg	129 mg/kg
Lead	250 mg/kg	1,000 mg/kg	2,190 mg/kg

No pesticides or PCBs were detected in four near-surface soil samples collected within two stained soil areas at the site.

### *2002 Removal Evaluation*

During September 2002, EPA conducted a removal evaluation of the Anderson-Calhoun Mine/Mill. The purpose of the inspection was to determine whether site conditions warrant a removal action. The following factors pertinent to determining the need for such an action were observed:

- Approximately 18 electrical transformers and other oil-filled electrical equipment are located throughout the mill area. One transformer is labeled PCB, several transformers are labeled Non-PCB, and others are unmarked. In most instances, the transformers appear to be intact and contain dielectric fluid. Several transformers are staged on concrete while others are pole-mounted or located on the ground.

The transformers are suspected of containing PCB-contaminated dielectric fluid at concentrations both greater and less than 50 parts per million (ppm). The Toxic Substances Control Act, 15 U.S.C. § 2610 *et. seq.*, regulatory threshold for PCBs is 50 parts per million (ppm) and the Washington Dangerous Waste Regulations, Ch. 173-303 WAC, regulatory threshold for PCBs is 2 ppm.

- Approximately 100, 55-gallon drums are located throughout the mill area. While several of the drums found out-of-doors appear empty, others are full or partially filled with unknown liquid and/or solid substances. Numerous drums staged within the dilapidated mill building are punctured with bullets and gelatinous or solid materials are spilling from the drums onto the surrounding concrete foundation. Several drums were labeled as containing sodium hydroxide or corrosive. Many of the drums were field tested and displayed corrosive, flammable, and ignitable characteristics.

- A partially filled bunkered storage tank is located near the tailings impoundment. The tank capacity is estimated to be 10,000 gallons and the contents is suspected to be diesel and perhaps other materials.
- The site is not secure and there is widespread evidence of trespass and vandalism and domestic and wild animal movement throughout the site.

There may be other unknown hazardous substances present at the site because of observed spillage, original container labels are not always present and if present may not accurately reflect contents, disposal records are not known to exist for process and industrial wastes generated at the site, and the site is not secure (illegal disposal may have occurred).

- A wetland complex is located on site. Deer, waterfowl, and amphibians were observed.

#### **IV. RESPONSE INFORMATION**

##### **A. Situation**

##### **1. Current situation**

All response activities are complete.

##### **2. Removal activities to date**

Federal (U.S. Fish and Wildlife Service), State (Department of Ecology), and Stevens County personnel were consulted and involved with planning for and implementation of the response activities described below.

A day-by-day chronology of events follows:

*09/23/02*

EPA approves Action Memorandum to conduct time-critical removal activities at the Anderson-Calhoun Mine/Mill site.

*10/24/02*

Stevens County Commissioners and Sheriff, Washington State Patrol, and US Border Patrol were briefed on removal activities and proposed schedule.

10/27/02

START and ERRS personnel mobilized to the site to conduct removal activities. Personnel: 1 EPA, 3 START (Herrera) and 7 ERRS (2 EQM and 5 ERI [EQM team subcontractor]). (Note that the USEPA OSC is overseeing both the Anderson-Calhoun and the Bonanza response actions because of the close proximity of the sites to each other.)

Weather: Sunny, 43°F /Clear 19°F

10/28/02

Personnel were familiarized with site features and also reviewed and discussed health and safety issues and the scope of removal activities. Established site control and reviewed standard operating procedures for work. Continued mobilization activities, including arrival of a 14-ton GMC boom truck, Caterpillar 924G front end loader, Genie Z-45 Manlift, and Hitachi Excavator EX225. Conducted site reconnaissance to locate full or partially filled containers. Started inventorying and labeling containers, staging containers and transformers, and hazard categorization and consolidation of container and transformer contents.

An operator failed to place boom truck out-riggers while attempting to remove three transformers from a pole-mounted platform. The truck was inherently unstable and consequently toppled over while removing one of the transformers. No one was injured. (Refer to Section 4 - Transformer Incident, for more detailed accident information.)

Personnel on-site: 1 EPA, 3 START, and 7 ERRS (2 EQM and 5 ERI).

Weather: Sunny, 41°F /Clear 18°F

10/29/02

Started removal of dielectric fluid from transformers and other oil-filled electrical equipment. Continued conducting site reconnaissance, inventorying, labeling, and staging containers and transformers, and hazard categorization and consolidation of container and transformer contents. The area suspected of containing elevated concentrations of Cd and Pb in soil were evaluated using a field portable X-ray fluorescence (FPXRF) instrument; however, no discernable pattern of contamination was detected.

Personnel on-site: 1 EPA, 3 START, and 6 ERRS.

Weather: Mostly sunny, 31°F /Clear 14°F

10/30/02

Continued removal of dielectric fluid from transformers and other oil-filled electrical equipment. Continued conducting site reconnaissance, inventorying, labeling, and staging containers and transformers, and hazard categorization and consolidation of container and transformer contents.

Personnel on-site: 1 EPA, 3 START, 6 ERRS.

Weather: Mostly sunny, 29°F /Clear 12°F

10/31/02

Continued conducting site reconnaissance, inventorying, labeling, and staging containers and transformers, and hazard categorization and consolidation of container and transformer contents. Started off-site transport of wastes for disposal.

Personnel on-site: 1 EPA, 3 START, 6 ERRS.

Weather: Sunny, 28°F /Clear 8°F

11/01/02

Continued site reconnaissance and consolidation of wastes and off-site transport of wastes for disposal. The site reconnaissance revealed an assay laboratory disposal dump suspected to be associated with the site because of discarded invoices labeled "Calhoun Mine" found scattered among the debris. Completed hazard categorization and packaging of assay wastes for disposal.

Personnel on-site: 1 EPA, 1 START, 6 EQM.

Weather: Sunny, 31°F /Clear 15°F.

11/02/02

Completed consolidation and packaging of all hazardous wastes and transformer carcasses for off-site transport for disposal. EPA, START, and EQM demobilized from the site.

Personnel on-site: 1 EPA, 1 START, 6 EQM.

Weather: Sunny, 30°F.

### **3. Enforcement**

ORC is continuing to investigate the potential for cost recovery from one or more PRPs.

### **4. Transformer Incident**

Late during the afternoon of 28 October 2002 an equipment operator failed to place boom truck out-riggers while removing one of three transformers from a pole-mounted platform. The truck was consequently inherently unstable and toppled over causing the release of approximately 44 gallons of suspected PCB-contaminated oil to the ground from the transformer labeled T21. No one was injured.

At the same time when the OSC and START were being notified of the incident by the ERRS supervisor early the following morning, the OSC observed a small release of oil (likely less than 2 gallons) occurring from one of the other pole-mounted transformers (T20) while it was being removed from the pole-mounted platform. Further removal was immediately suspended pending investigation of both releases and development of a revised transformer pole and platform dismounting procedure.

The ERRS supervisor was relieved of his responsibilities because of his failure to implement worker safety and vehicle operation procedures and was replaced by a more competent and capable supervisor. Site-specific worker safety and equipment operation practices and procedures were again reviewed with all response personnel and a revised work plan was implemented to drain oil from all remaining pole- and platform-mounted transformers before dismount. At the same time, a plan was developed for the excavation of transformer oil contaminated soils. Approximately 10 cubic yards of visually oil-contaminated soil was excavated and samples of residual oil from transformers T20 and T21 (and the third platform transformer T19) along with a confirmation soil sample collected from the excavated area were collected and submitted for analysis. The excavated area was subsequently backfilled with clean soil and graded to existing slope conditions.

Analytical results for transformer oil samples T19, T20, and T21 revealed no PCBs detected above the laboratory reporting limit of 1.0 part per million (ppm). Analytical results for the confirmation soil sample, which was analyzed for PCBs and total petroleum hydrocarbons in diesel and the heavier-than-diesel range, revealed no PCBs detected above the laboratory reporting limit of 0.05 ppm and no diesel-, mineral oil-, or lube oil-range hydrocarbons were detected above their respective laboratory detection limits of 10.0, 25.0, and 25.0 ppm.

### **B. Planned Removal Activities**

There are no planned activities; all response activities required by the Action Memorandum are complete. However, further site investigation is recommended, as described below (refer to Section D - Key Issues).

**C. Next Steps**

None.

**D. Key Issues**

The site should be considered for further evaluation to assess the potential nature and extent of contamination at the following locations:

- Areas previously identified during the EPA 2001 site investigation such as the evaporation/settlement pond and tailings piles; beneath and near all ground transformers and associated pads with PCB concentrations greater than 1 ppm; assay lab dump and debris pile; and oil-stained area southeast of the mill building near the former empty drum stockpile.
- Sediment and surface water in wetlands and other surface water features such as the North Fork Deep Creek, drainage ditches, and water-filled mine pits.
- Subsurface soil and groundwater associated with the bunkered tank.
- Several white crystalline waste piles and similar material found within the silo.

There are also numerous human health-related physical hazards associated with unrestricted access to the site such as the water-filled mine pits and dilapidated buildings. Therefore, recommend that the current owner should take whatever precautions deemed appropriate to protect the public against such hazards.

**V. COST INFORMATION**

	Estimated CostsTo Date
EPA	\$8,175
EERS	\$109,000
START	\$43,000
TOTAL	\$160,175



Note: The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

## VI. DISPOSITION OF WASTES

Wastestream	Medium	Quantity	Containment	Treatment	Disposal
Acid	Liquid	50 gals	Overpacked	Neutralization	Burlington Environmental, Kent, WA
Corrosives	Liquid	3,250 gals	Overpacked	Neutralization	Burlington Environmental, Kent, WA
Corrosives	Solid	3,000 lbs	Overpacked	Neutralization	Burlington Environmental, Kent, WA
Flammable Liquids	Liquid/Sludge	7,600 gals	Bulked/Over-packed	Incinerated	Burlington Environmental, Kent, WA
PCBs	Contaminated Soil	10 cy	Roll-off Container	Landfill	Chemical Waste Management, Arlington, OR
PCBs	Liquid	115 gals	Bulked	Incinerated	Burlington Environmental, Kent, WA
Transformer Carcasses	Solid	16,535 lbs	Containment boxes	Recycled	Burlington Environmental, Kent, WA
Lead Acid Batteries	Solid	80 lbs	Pallet	Neutralization	Burlington Environmental, Kent, WA
Non-hazardous debris	Solid	28,280 lbs	Bulked	Landfill	Chemical Waste Management, Arlington, OR
Non-hazardous debris	Solid	300 lbs	Containment Box/Over-packed	Landfill	Chemical Waste Management, Arlington, OR

## **VII. DISTRIBUTION**

EPA HQ, Attn: Terry Eby  
EPA/Region 10/ECL/ERU  
EPA/Region 10/WOO, Attn: Tom Eaton  
Ecology, Attn: Flora Goldstein  
Herrera, Attn: P. Fedirchuk  
EQM, Attn: Jason Coury

## **APPENDIX D**

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# Hazard Categorization Data Collection Sheets

# Hazard Categorization Data Summary Sheet

Sample Number	Sample Description	Water Solubility (+/-)	Water Solubility/Reactivity (Sol./Insol./Floater/Sinker)	pH	Oxidizer (+/-)	Sulfide (+/-)	Cyanide (+/-)	Flammability (<100/100-140/140-200/>200/nonflammable)	Beilstein (color)	Iodine Saturation (color)	Char Test (char/flam.vapors)	Conclusion or Hazard Category
01	55 gal	+	Floater	7	-	-	-	140-200			<del>Flam</del>	Flam liquid
02	55 GAL	+	Floater	7	-	-	-	<del>140-200</del> 140-200			<del>Flam</del>	Flam
03	55 GAL	+	Floater	7	-	-	-	140-200			<del>Flam</del>	Flam
04	55 GAL	+	Floater	7	-	-	-	Non-Flam				WATER
05	5 GAL	-	Sinker	7	-	-	-	Non-Flam				Class 9
06	5 GAL	-	Sinker	7	-	-	-	Non-Flam				Class 9
07	30 GAL	+	<del>Sinker</del> Floater	7	<del>80</del>	<del>80</del>	<del>80</del>	Non-Flam				class 9
08	5 GAL	+	Sinker	7	-	-	-	Non-Flam				Class 9
09	5 GAL	+	Sinker	7	-	-	-	Non-Flam				class 9
10	55	-	Sinker	7	-	-	-	Non-Flam				class 9

**Hazard Categorization  
Data Summary Sheet**

Sample Number	Sample Description	Water Solubility (+/-)	Water Solubility/Reactivity (Sol./Insol./Floater/Sinker)	pH	Oxidizer (+/-)	Sulfide (+/-)	Cyanide (+/-)	Flammability (<100/100-140/140-200/>200/nonflammable)	Beilstein (color)	Iodine Saturation (color)	Char Test (char/flam.vapors)	Conclusion or Hazard Category
11	55	—	Sinker	—	—	—	—					Dirt
12	55	—	Sinker	7	—	—	—	—				Class 9
13	55	+	Sinker	7	—	—	—	—				Class 9
14	5	+	"	7	—	—		—				"
15	5	+	"	7	—	—	—	—				"
16	5	+	"	7	—	—	—	—				"
17	5	+	"	7	—	—	—	—				"
18	5	+	"	7	—	—	—	—				"
19	5	+	"	7	—	—	—	—				"
20	55	+	"	7	—	—	—	—				"

*Hazard Categorization  
Data Summary Sheet*

[illegible]

## Hazard Categorization Data Summary Sheet

[illegible]

# Hazard Categorization Data Summary Sheet

Sample Number	Sample Description	Water Solubility/ Reactivity (Sol./Insol./ Floater/Sinker)	pH	Oxidizer (+/-)	Sulfide (+/-)	Cyanide (+/-)	Flammability (<100/100-140/ 140-200/>200/ nonflammable)	Beilstein (color)	Iodine Saturation (color)	Char Test (char/ flam.vapors)	Conclusion or Hazard Category
57	55GAL										Frozen overpacked
58	55GAL										Frozen
59-97	55GAL	+	Sink	14							Corrosive
98-114	55GAL	+	Floater	7			140-200				Flam
115	55GAL	+	Sink	7							class 9
116	55GAL	+	Sink	7							class 9
117	55GAL	+	Sink	7							class 9
118	55GAL	+									Frozen
119	55GAL	+									Frozen
120	55GAL	+	Sink	7							class 9



## Hazard Categorization Data Summary Sheet

[illegible]

Hazard Categorization  
Data Summary Sheet

BOTTLES FROM  
ASSAY DUMPSITE

Sample Number	Sample Description	Water Solubility/Reactivity (Sol./Insol./Floater/Sinker)	pH	Oxidizer (+/-)	Sulfide (+/-)	Cyanide (+/-)	Flammability (<100/100-140/140-200/>200/nonflammable)	Beilstein (color)	Iodine Saturation (color)	Char Test (char/flam.vapors)	Conclusion or Hazard Category
1	THICK OILY 1 PINT		7				—				Toxic
2	GREEN LIQUID 1 PINT		13				—				Base
3	THICK DARK BROWN LIQUID 2 PINTS		8				—				↓
4	THICK DARK BROWN LIQUID 1 PINT		6				—				Tox
5	" 2 PINTS		4				—				Tox
6	" 2 PINTS		6				—				Tox
7	" 1 PINT		6				—				Tox
8	THICK LIGHT BROWN LIQUID 2 OZ		5				—				Tox
9	" 2 OZ		5				—				Tox
10	" 2 OZ		5				—				Tox

BOTTLES FROM  
ASSAY DUMP SITE

Hazard Categorization  
Data Summary Sheet

Sample Number	Sample Description	Watermo (+/-)	Water Solubility/Reactivity (Sol./Insol./Floater/Sinker)	pH	Oxidizer (+/-)	Sulfide (+/-)	Cyanide (+/-)	Flammability (<100/100-140/140-200/>200/nonflammable)	Beilstein (color)	Iodine Saturation (color)	Char Test (char/flam.vapors)	Conclusion or Hazard Category
11	THICK LIGHT BROWN LIQUID 2 OZ			5				—				TOX
12	" 4 OZ			5				—				
13	CLEAR LIQUID 8 OZ			7				—				
14	THICK BROWN LIQUID 8 OZ			7				—				
15	" 8 OZ			7				—				TOX
16	CLEAR LIQUID 8 OZ			1				—				Acid
17	THICK CLEAR LIQUID 8 OZ			5				—				TOX
18	CLEAR LIQUID 8 OZ			1				—				Acid
19	" 16 OZ			12				—				Caustic
20	BROWN LIQUID 4 OZ			11				—				Caustic

BOTTLES FROM  
ASSAY DUMP SITE

Hazard Categorization  
Data Summary Sheet

Sample Number	Sample Description	Watesmo (+/-)	Water Solubility/ Reactivity (Sol./Insol./ Floater/Sinker)	pH	Oxidizer (+/-)	Sulfide (+/-)	Cyanide (+/-)	Flammability (<100/100-140/ 140-200/>200/ nonflammable)	Beilstein (color)	Iodine Saturation (color)	Char Test (char/ flam.vapors)	Conclusion or Hazard Category
21	CLEAR LIQUID 3 OZ			2				-				Acid
22	TRANSPARENT YELLOW LIQUID 2 OZ			4				-				Acid
23	FROZEN WHITE LIQUID 16 OZ			5				-				Toxic
24	KEY LIQUID 2 OZ			7				+				Flam
25	FROZEN WHITE POWDER 12 OZ			7				-				Toxic
26	FROZEN CLEAR GEL 1 OZ			4				-				Acid
27	BLACK LIQUID 4 OZ			6				+				Flam
28	CLEAR LIQUID 4 OZ			6				+				Flam
29	CLEAR LIQUID 4 OZ			4				-				Acid
30	CLEAR LIQUID 4 OZ			6				+				Flam

## Hazard Categorization Data Summary Sheet

[illegible]

## APPENDIX E

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# Laboratory Analytical Results and Data Validation

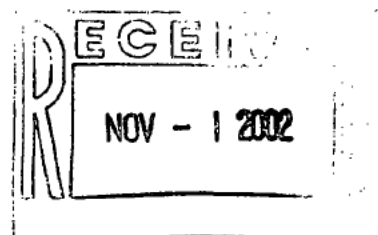
Porters  
2200 6th Ave., #1100  
Seattle, WA 98121

Project: None Provided  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
10/30/02 11:32

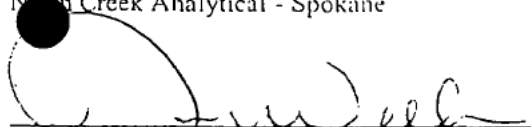
### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T22	S210071-01	Other (L)	10/28/02 14:30	10/29/02 08:50
T13	S210071-02	Other (L)	10/28/02 14:45	10/29/02 08:50
T14	S210071-03	Other (L)	10/28/02 14:50	10/29/02 08:50
T15	S210071-04	Other (L)	10/28/02 15:00	10/29/02 08:50
T10	S210071-05	Other (L)	10/28/02 16:50	10/29/02 08:50



North Creek Analytical - Spokane

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Dennis D Wells, Laboratory Director

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**Environmental Laboratory Network**

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503.906.9200 fax 503.906.9210  
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7588

Herrera  
2200 6th Ave., #1100  
Seattle, WA 98121

Project: None Provided  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
10/30/02 11:32

**Polychlorinated Biphenyls by EPA Method 8082**  
**North Creek Analytical - Spokane**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
<b>T22 (S210071-01) Other (L)</b>						Sampled: 10/28/02 Received: 10/29/02			
PCB-1016	ND	1.00	mg/kg	1	EPA 8082	10/29/02	10/29/02	2100072	
PCB-1221	ND	1.00	"	"	"	"	"	"	
PCB-1232	ND	1.00	"	"	"	"	"	"	
PCB-1242	ND	1.00	"	"	"	"	"	"	
PCB-1248	ND	1.00	"	"	"	"	"	"	
PCB-1254	ND	1.00	"	"	"	"	"	"	
PCB-1260	140	1.00	"	"	"	"	"	"	
Surr: TCX	48.6 %	47-140							
<b>T13 (S210071-02) Other (L)</b>						Sampled: 10/28/02 Received: 10/29/02			
PCB-1016	ND	1.00	mg/kg	1	EPA 8082	10/29/02	10/29/02	2100072	
PCB-1221	ND	1.00	"	"	"	"	"	"	
PCB-1232	ND	1.00	"	"	"	"	"	"	
PCB-1242	ND	1.00	"	"	"	"	"	"	
PCB-1248	ND	1.00	"	"	"	"	"	"	
PCB-1254	ND	1.00	"	"	"	"	"	"	
PCB-1260	1.36	1.00	"	"	"	"	"	"	
Surr: TCX	47.0 %	47-140							
<b>T14 (S210071-03) Other (L)</b>						Sampled: 10/28/02 Received: 10/29/02			
PCB-1016	ND	1.00	mg/kg	1	EPA 8082	10/29/02	10/29/02	2100072	
PCB-1221	ND	1.00	"	"	"	"	"	"	
PCB-1232	ND	1.00	"	"	"	"	"	"	
PCB-1242	ND	1.00	"	"	"	"	"	"	
PCB-1248	ND	1.00	"	"	"	"	"	"	
PCB-1254	ND	1.00	"	"	"	"	"	"	
PCB-1260	7.37	1.00	"	"	"	"	"	"	
Surr: TCX	52.0 %	47-140							

gpc  
12/31/02

North Creek Analytical - Spokane

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541.383.9310 fax 541.382.7588

Herrera  
2200 6th Ave., #1100  
Seattle, WA 98121

Project: None Provided  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
10/30/02 11:32

**Polychlorinated Biphenyls by EPA Method 8082**  
**North Creek Analytical - Spokane**

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
---------	--------	-----------------	-------	----------	--------	----------	----------	-------	-------

**T15 (S210071-04) Other (L)**

Sampled: 10/28/02 Received: 10/29/02

PCB-1016	ND	1.00	mg/kg	1	EPA 8082	10/29/02	10/29/02	2100072	
PCB-1221	ND	1.00	"	"	"	"	"	"	
PCB-1232	ND	1.00	"	"	"	"	"	"	
PCB-1242	ND	1.00	"	"	"	"	"	"	
PCB-1248	ND	1.00	"	"	"	"	"	"	
PCB-1254	ND	1.00	"	"	"	"	"	"	
PCB-1260	4.29	1.00	"	"	"	"	"	"	
Surr: TCX	53.8 %	47-140							

**T10 (S210071-05) Other (L)**

Sampled: 10/28/02 Received: 10/29/02

PCB-1016	ND	1.00	mg/kg	1	EPA 8082	10/29/02	10/29/02	2100072	
PCB-1221	ND	1.00	"	"	"	"	"	"	
PCB-1232	ND	1.00	"	"	"	"	"	"	
PCB-1242	ND	1.00	"	"	"	"	"	"	
PCB-1248	ND	1.00	"	"	"	"	"	"	
PCB-1254	ND	1.00	"	"	"	"	"	"	
PCB-1260	ND	1.00	"	"	"	"	"	"	
Surr: TCX	52.7 %	47-140							

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503.936.9200 fax 503.906.9210  
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7586

Herrera  
2200 6th Ave., #1100  
Seattle, WA 98121

Project: None Provided  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
10/30/02 11:32

### Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

#### North Creek Analytical - Spokane

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

#### Batch 2100072 - EPA 3580

##### Blank (2100072-BLK1)

Prepared & Analyzed: 10/29/02

PCB-1016	ND	1.00	mg/kg
PCB-1221	ND	1.00	"
PCB-1232	ND	1.00	"
PCB-1242	ND	1.00	"
PCB-1248	ND	1.00	"
PCB-1254	ND	1.00	"
PCB-1260	ND	1.00	"

Surr: TCX 0.744 0.800 93.0 47-140

##### LCS (2100072-BS1)

Prepared & Analyzed: 10/29/02

PCB-1260	15.6	1.00	mg/kg
Surr: TCX	0.584		"

20.0 78.0 37-98  
0.800 73.0 47-140

##### Matrix Spike (2100072-MS1)

Source: S210071-01

Prepared & Analyzed: 10/29/02

PCB-1260	189	1.00	mg/kg
Surr: TCX	0.398		"

19.8 140 NR 37-98  
0.793 50.2 47-140

Q-03

##### Matrix Spike Dup (2100072-MSD1)

Source: S210071-01

Prepared & Analyzed: 10/29/02

PCB-1260	221	1.00	mg/kg
Surr: TCX	0.517		"

19.7 140 NR 37-98  
0.788 65.6 47-140

9/25/02 12/31/02

North Creek Analytical - Spokane

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Seattle, WA 98121

Project: None Provided  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
10/30/02 11:32

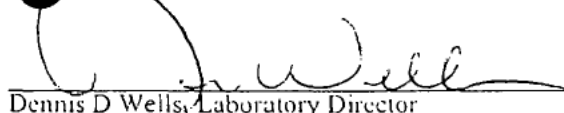
### Notes and Definitions

- Q-03 The spike recovery for this QC sample cannot be accurately calculated due to high concentration of analyte in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.
- wet Sample results reported on a wet weight basis
- RPD Relative Percent Difference

GAC  
12/31/02

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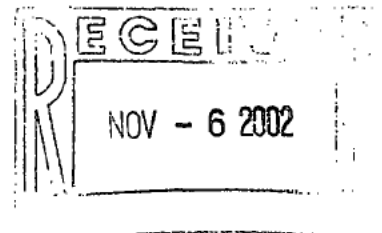
Herrera  
2200 6th Ave., #1100  
Seattle, WA 98121

Project: TDD-02-10-0006  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
11/04/02 09:38

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
51	S211003-01	Other (S)	10/31/02 13:00	11/01/02 09:45
56	S211003-02	Other (S)	10/31/02 13:10	11/01/02 09:45
73	S211003-03	Other (S)	10/31/02 13:25	11/01/02 09:45
28	S211003-04	Other (S)	11/01/02 09:00	11/01/02 09:45
135	S211003-05	Other (S)	11/01/02 09:25	11/01/02 09:45



North Creek Analytical - Spokane

  
Dennis D. Wells, Laboratory Director

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Herrera  
2200 6th Ave., #1100  
Seattle, WA 98121

Project TDD-02-10-0006  
Project Number C00-01732-032  
Project Manager: Diana Phelan

Reported:  
11/04/02 09:38

Conventional Chemistry Parameters by APHA/EPA Methods  
North Creek Analytical - Spokane

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
51 (S211003-01) Other (S)						Sampled: 10/31/02	Received: 11/01/02		
pH	10.4		pH Units	1	EPA 9045	11/01/02	11/01/02	2110004	
56 (S211003-02) Other (S)						Sampled: 10/31/02	Received: 11/01/02		
pH	11.4		pH Units	1	EPA 9045	11/01/02	11/01/02	2110004	
73 (S211003-03) Other (S)						Sampled: 10/31/02	Received: 11/01/02		
pH	11.6		pH Units	1	EPA 9045	11/01/02	11/01/02	2110004	
28 (S211003-04) Other (S)						Sampled: 11/01/02	Received: 11/01/02		
pH	2.60		pH Units	1	EPA 9045	11/01/02	11/01/02	2110004	
135 (S211003-05) Other (S)						Sampled: 11/01/02	Received: 11/01/02		
pH	11.1		pH Units	1	EPA 9045	11/01/02	11/01/02	2110004	

North Creek Analytical - Spokane

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503.906.9200 fax 503.906.9210  
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Hehnera  
2200 6th Ave., #1100  
Seattle, WA 98121

Project: TDD-02-10-0006  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
11/04/02 09:38

### Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

#### North Creek Analytical - Spokane

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

#### Batch 2110004 - Wet Chem

Duplicate (2110004-DUP1)

Source: S211003-02

Prepared & Analyzed: 11/01/02

pH	11.6		pH Units	11.4		1.74	20
----	------	--	----------	------	--	------	----

gac  
12/3/02

North Creek Analytical - Spokane

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541.383.9310 fax 541.382.7588

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Seattle, WA 98121

Project: TDD-02-10-0006  
Project Number: C00-01732-032  
Project Manager: Diana Phelan

Reported:  
11/04/02 09:38

### Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

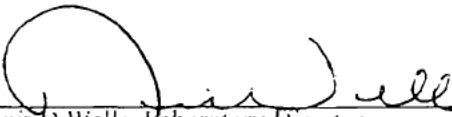
dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.

wet Sample results reported on a wet weight basis

RPD Relative Percent Difference

North Creek Analytical - Spokane

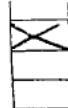
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## CHAIN OF CUSTODY REPORT

Work Order #: 5211003

CLIENT: <b>HERRERA/EPA</b>		INVOICE TO: <b>HERRERA ENVIRONMENTAL</b>		TURNAROUND REQUEST in Business Days*							
REPORT TO: <b>DIANA M. PHELAN/HERRERA ENVIRONMENTAL</b>		2200 SIXTH AVE., #1100		Organic & Inorganic Analyses							
ADDRESS: <b>2200 SIXTH AVE. #1100</b>		SEATTLE, WA 98121		10 7 5 4 3 2 1 <input checked="" type="checkbox"/>							
PHONE: <b>206-441-9080</b>		FAX: <b>206-441-9108</b>		STD. <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1							
PROJECT NAME: <b>TDD-02-10-0006</b>		REQUESTED ANALYSES		Petro. Hydrocarbon Analyses							
PROJECT NUMBER: <b>COO-01732-032</b>				STD. <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1							
SAMPLED BY: <b>DAVE BROWN</b>				Please Specify							
				<input checked="" type="checkbox"/> OTHER <b>Not TAT due to</b>							
				*Turnaround Requests less than standard may be subject to change							
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATRIX (W, S, O)		# OF CONT.		COMMENTS		NCA WO ID	
1. 51		10/31/02 1300		O		1					
2. 56		10/31/02 1310		O		1					
3. 73		10/31/02 1325		O		1					
4. 28		11/01/02 0900		O		1					
5. 135		11/01/02 0925		O		1					
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
RELINQUISHED BY: <b>Diana M. Phelan</b>		DATE: <b>11-1-02</b>		RECEIVED BY: <b>Laura Jones</b>		DATE: <b>11-1-02</b>					
PRINT NAME: <b>DIANA M. PHELAN</b>		FIRM: <b>HERRERA</b>		PRINT NAME: <b>Laura Jones</b>		FIRM: <b>HERRERA</b>					
RELINQUISHED BY: <b>Laura Jones</b>		DATE: <b>11-1-02</b>		RECEIVED BY: <b>Dennis D. Webb</b>		DATE: <b>11/1/02</b>					
PRINT NAME: <b>Laura Jones</b>		FIRM: <b>HERRERA</b>		PRINT NAME: <b>Dennis D. Webb</b>		FIRM: <b>NCA</b>					
ADDITIONAL REMARKS:											
COC REV 3/99											



DEC - 2 11

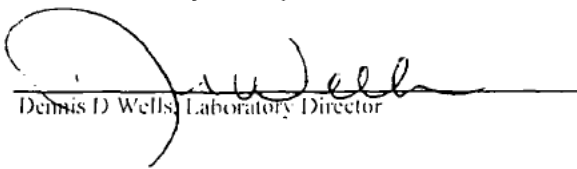
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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
PS-108	S211006-01	Other (S)	10/29/02
PS-98	S211006-02	Other (S)	10/30/02
PS-103	S211006-03	Other (S)	10/30/02
PS-29	S211006-04	Other (S)	10/31/02
Tank 1	S211006-05	Other (S)	10/31/02
Tank 2	S211006-06	Other (S)	10/31/02
PS-53	S211006-07	Other (S)	10/31/02
PS-124	S211006-08	Other (S)	11/1/02
PS-3	S211006-10	Other (S)	11/1/02
B1	S211006-12	Other (S)	11/2/02
B2	S211006-13	Other (S)	11/2/02
B3	S211006-14	Other (S)	11/2/02
Trip Blank	S211006-15	Water	11/1/02
T40	S211006-16	Other (S)	10/30/02
Crusher-Comp	S211006-17	Other (S)	10/30/02
T2	S211006-18	Other (S)	10/30/02
T7.T8.T9	S211006-19	Other (S)	10/30/02
T16	S211006-20	Other (S)	10/30/02
T1.T3	S211006-21	Other (S)	10/31/02
T10 North	S211006-22	Other (S)	10/31/02

North Creek Analytical - Spokane ~~the~~ results in this report apply to the samples analyzed in accordance with the chain of custody document.  
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Environmental Laboratory Network



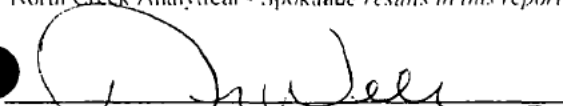
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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
T10 South	S211006-23	Other (S)	10/31/02
T42	S211006-24	Other (S)	11/1/02
T25	S211006-25	Other (S)	11/1/02
T48	S211006-26	Other (S)	11/2/02
T26, T27, T28	S211006-27	Other (S)	10/29/02
T39	S211006-28	Other (S)	10/30/02
T4, T5, T6	S211006-29	Other (S)	10/30/02
T19, T20	S211007-01	Other (S)	10/29/02
T19	S211007-02	Other (S)	10/29/02
T21	S211007-03	Other (S)	10/31/02

North Creek Analytical - Spokane The results in this report apply to the samples analyzed in accordance with the chain of custody document.  
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12/3/02

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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Semivolatile Petroleum Products by NWTPH-Dx**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>Tank 1</b>				<b>S211006-05</b>			<b>Other (S)</b>	
Diesel Range Hydrocarbons	2110032	11/11/02	11/11/02	NWTPH-Dx	1200	ND	mg/kg	
Lube Oil	"	"	"	NWTPH-Dx	3000	ND	"	
Surrogate: 2-FBP	"	"	"	50-150		92.0	%	
Surrogate: p-Terphenyl-d14	"	"	"	50-150		100	"	
<b>Tank 2</b>				<b>S211006-06</b>			<b>Other (S)</b>	
Diesel Range Hydrocarbons	2110032	11/11/02	11/11/02	NWTPH-Dx	1200	ND	mg/kg	
Lube Oil	"	"	"	NWTPH-Dx	3000	ND	"	
Surrogate: 2-FBP	"	"	"	50-150		53.0	%	
Surrogate: p-Terphenyl-d14	"	"	"	50-150		59.8	"	

*gym*  
*12/31/02*



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Total Metals by EPA 6010/7000 Series Methods  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>B1</b>				<b>S211006-12</b>			<b>Other (S)</b>	
Antimony	2110025	11/7/02	11/7/02	EPA 6010A	2.62	ND	mg/kg	
Arsenic	"	"	"	EPA 6010A	6.88	ND	"	
Barium	2110061	11/18/02	11/18/02	EPA 6010A	0.425	39.6	"	
Beryllium	2110025	11/7/02	11/7/02	EPA 6010A	0.0728	ND	"	
Cadmium	"	"	"	EPA 6010A	0.173	ND	"	
Chromium	"	"	"	EPA 6010A	0.425	0.500	"	
Copper	"	"	"	EPA 6010A	0.745	ND	"	
Nickel	"	"	"	EPA 6010A	1.13	1.31	"	
Selenium	"	"	"	EPA 6010A	4.35	ND	"	
Silver	"	"	"	EPA 6010A	0.756	ND	"	
Thallium	"	"	"	EPA 6010A	10.6	ND	"	
Zinc	"	"	"	EPA 6010A	0.238	5.30	"	
Lead	"	"	"	EPA 6010B	3.32	ND	"	
Mercury	2110042	11/11/02	11/13/02	EPA 7471A Mod.	12.8	ND	ug/kg	
<b>B2</b>				<b>S211006-13</b>			<b>Other (S)</b>	
Antimony	2110025	11/7/02	11/7/02	EPA 6010A	2.62	ND	mg/kg	
Arsenic	"	"	"	EPA 6010A	6.88	ND	"	
Barium	2110061	11/18/02	11/18/02	EPA 6010A	0.425	107	"	
Beryllium	2110025	11/7/02	11/7/02	EPA 6010A	0.0728	ND	"	
Cadmium	"	"	"	EPA 6010A	0.173	ND	"	
Calcium	2110061	11/18/02	11/18/02	EPA 6010A	1.52	397	"	
Chromium	2110025	11/7/02	11/7/02	EPA 6010A	0.425	ND	"	
Copper	"	"	"	EPA 6010A	0.745	ND	"	
Iron	2110061	11/18/02	11/18/02	EPA 6010A	0.355	5.88	"	
Magnesium	"	"	"	EPA 6010A	3.34	17.6 R	"	U 9/21/2012
Nickel	2110025	11/7/02	11/7/02	EPA 6010A	1.13	ND	"	
Potassium	2110061	11/18/02	11/18/02	EPA 6010A	22.3	ND	"	
Selenium	2110025	11/7/02	11/7/02	EPA 6010A	4.35	ND	"	
Silver	"	"	"	EPA 6010A	0.756	ND	"	
Sodium	2110061	11/18/02	11/18/02	EPA 6010A	2.66	92400	"	
Thallium	2110025	11/7/02	11/7/02	EPA 6010A	10.6	17.7	"	
Zinc	"	"	"	EPA 6010A	0.238	2.08	"	
Lead	"	"	"	EPA 6010B	3.32	ND	"	
Mercury	2110042	11/11/02	11/13/02	EPA 7471A Mod.	12.8	ND	ug/kg	
<b>B3</b>				<b>S211006-14</b>			<b>Other (S)</b>	
Antimony	2110025	11/7/02	11/7/02	EPA 6010A	2.62	ND	mg/kg	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

9/21/2012



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**Bend** 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Total Metals by EPA 6010/7000 Series Methods**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>B3 (continued)</b>				<b>S211006-14</b>			<b>Other (S)</b>	
Arsenic	2110025	11/7/02	11/7/02	EPA 6010A	6.88	ND	mg/kg	
Barium	2110061	11/18/02	11/18/02	EPA 6010A	0.425	<b>1830</b>	"	
Beryllium	2110025	11/7/02	11/7/02	EPA 6010A	0.0728	ND	"	
Cadmium	"	"	"	EPA 6010A	0.173	ND	"	
Calcium	2110061	11/18/02	11/18/02	EPA 6010A	1.52	<b>214000</b>	"	
Chromium	2110025	11/7/02	11/7/02	EPA 6010A	0.425	<b>0.544</b>	"	
Copper	"	"	"	EPA 6010A	0.745	ND	"	
Iron	2110061	11/18/02	11/18/02	EPA 6010A	0.355	<b>1440</b>	"	
Magnesium	"	"	"	EPA 6010A	3.34	<b>11900</b>	"	
Nickel	2110025	11/7/02	11/7/02	EPA 6010A	1.13	ND	"	
Potassium	2110061	11/18/02	11/18/02	EPA 6010A	22.3	<b>22100</b>	"	
Selenium	2110025	11/7/02	11/7/02	EPA 6010A	4.35	ND	"	
Silver	"	"	"	EPA 6010A	0.756	ND	"	
Sodium	2110061	11/18/02	11/18/02	EPA 6010A	2.66	<b>299</b>	"	
Thallium	2110025	11/7/02	11/7/02	EPA 6010A	10.6	ND	"	
Zinc	"	"	"	EPA 6010A	0.238	<b>21.8</b>	"	
Lead	"	"	"	EPA 6010B	3.32	ND	"	
Mercury	2110042	11/11/02	11/13/02	EPA 7471A Mod.	12.8	ND	ug/kg	

*apc 12/3/02*



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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-108</b>				<b>S211006-01</b>			<b>Other (S)</b>	
Acetone	2110046	11/12/02	11/14/02	EPA 8260A	5.00	ND	mg/kg dry	
Benzene	"	"	"	EPA 8260A	0.150	ND	"	
Bromobenzene	"	"	"	EPA 8260A	0.500	ND	"	
Bromochloromethane	"	"	"	EPA 8260A	0.500	ND	"	
Bromodichloromethane	"	"	"	EPA 8260A	0.500	ND	"	
Bromoform	"	"	"	EPA 8260A	0.500	ND	"	
Bromomethane	"	"	"	EPA 8260A	2.50	ND	"	
2-Butanone	"	"	"	EPA 8260A	5.00	ND	"	
n-Butylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
sec-Butylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
tert-Butylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
Carbon disulfide	"	"	"	EPA 8260A	0.500	ND	"	
Carbon tetrachloride	"	"	"	EPA 8260A	0.500	ND	"	
Chlorobenzene	"	"	"	EPA 8260A	0.500	ND	"	
Chloroethane	"	"	"	EPA 8260A	0.500	ND	"	
Chloroform	"	"	"	EPA 8260A	0.500	ND	"	
Chloromethane	"	"	"	EPA 8260A	2.50	ND	"	
2-Chlorotoluene	"	"	"	EPA 8260A	0.500	ND	"	
4-Chlorotoluene	"	"	"	EPA 8260A	0.500	ND	"	
Dibromochloromethane	"	"	"	EPA 8260A	0.500	ND	"	
1,2-Dibromo-3-chloropropane	"	"	"	EPA 8260A	2.50	ND	"	
1,2-Dibromoethane	"	"	"	EPA 8260A	0.500	ND	"	
Dibromomethane	"	"	"	EPA 8260A	0.500	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8260A	0.500	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8260A	0.500	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8260A	0.500	ND	"	
Dichlorodifluoromethane	"	"	"	EPA 8260A	0.500	ND	"	
1,1-Dichloroethane	"	"	"	EPA 8260A	0.500	ND	"	
1,2-Dichloroethane	"	"	"	EPA 8260A	0.500	ND	"	
1,1-Dichloroethene	"	"	"	EPA 8260A	0.500	ND	"	
cis-1,2-Dichloroethene	"	"	"	EPA 8260A	0.500	ND	"	
trans-1,2-Dichloroethene	"	"	"	EPA 8260A	0.500	ND	"	
1,2-Dichloropropane	"	"	"	EPA 8260A	0.500	ND	"	
1,3-Dichloropropane	"	"	"	EPA 8260A	0.500	ND	"	
2,2-Dichloropropane	"	"	"	EPA 8260A	0.500	ND	"	
1,1-Dichloropropene	"	"	"	EPA 8260A	0.500	ND	"	
cis-1,3-Dichloropropene	"	"	"	EPA 8260A	0.500	ND	"	
trans-1,3-Dichloropropene	"	"	"	EPA 8260A	0.500	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gac 12/31/02*



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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-108 (continued)</b>		<b>S211006-01</b>			<b>Other (S)</b>			
Ethylbenzene	2110046	11/12/02	11/14/02	EPA 8260A	0.500	ND	mg/kg dry	
Hexachlorobutadiene	"	"	"	EPA 8260A	0.500	ND	"	
2-Hexanone	"	"	"	EPA 8260A	5.00	ND	"	
Isopropylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
p-Isopropyltoluene	"	"	"	EPA 8260A	0.500	ND	"	
Methylene chloride	"	"	"	EPA 8260A	5.00	ND	"	
4-Methyl-2-pentanone	"	"	"	EPA 8260A	5.00	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	0.500	ND	"	
Naphthalene	"	"	"	EPA 8260A	0.500	ND	"	
n-Propylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
Styrene	"	"	"	EPA 8260A	0.500	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"	EPA 8260A	0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"	EPA 8260A	0.500	ND	"	
Tetrachloroethene	"	"	"	EPA 8260A	0.150	ND	"	
Toluene	"	"	"	EPA 8260A	0.500	ND	"	
1,2,3-Trichlorobenzene	"	"	"	EPA 8260A	0.500	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8260A	0.500	ND	"	
1,1,1-Trichloroethane	"	"	"	EPA 8260A	0.500	ND	"	
1,1,2-Trichloroethane	"	"	"	EPA 8260A	0.500	ND	"	
Trichloroethene	"	"	"	EPA 8260A	0.150	ND	"	
Trichlorofluoromethane	"	"	"	EPA 8260A	0.500	ND	"	
1,2,3-Trichloropropane	"	"	"	EPA 8260A	0.500	ND	"	
1,2,4-Trimethylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
1,3,5-Trimethylbenzene	"	"	"	EPA 8260A	0.500	ND	"	
Vinyl chloride	"	"	"	EPA 8260A	0.500	ND	"	
o-Xylene	"	"	"	EPA 8260A	1.00	ND	"	
m,p-Xylene	"	"	"	EPA 8260A	2.00	ND	"	
Surrogate: 1,2-dichloroethane-d4	"	"	"	50-150		50.1	%	
Surrogate: Toluene-d8	"	"	"	50-150		116	"	
Surrogate: 4-bromofluorobenzene	"	"	"	50-150		NR	"	S-05

APR 12 2012



Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-98</b>			<b>S211006-02</b>				<b>Other (S)</b>	
Acetone	2110046	11/12/02	11/14/02	EPA 8260A	2.00	ND	mg/kg dry	
Benzene	"	"	"	EPA 8260A	0.0600	ND	"	
Bromobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Bromochloromethane	"	"	"	EPA 8260A	0.200	ND	"	
Bromodichloromethane	"	"	"	EPA 8260A	0.200	ND	"	
Bromoform	"	"	"	EPA 8260A	0.200	ND	"	
Bromomethane	"	"	"	EPA 8260A	1.00	ND	"	
2-Butanone	"	"	"	EPA 8260A	2.00	ND	"	
<b>n-Butylbenzene</b>	"	"	"	EPA 8260A	0.200	<b>0.271</b>	"	
sec-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
tert-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Carbon disulfide	"	"	"	EPA 8260A	0.200	ND	"	
Carbon tetrachloride	"	"	"	EPA 8260A	0.200	ND	"	
Chlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Chloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Chloroform	"	"	"	EPA 8260A	0.200	ND	"	
Chloromethane	"	"	"	EPA 8260A	1.00	ND	"	
2-Chlorotoluene	"	"	"	EPA 8260A	0.200	ND	"	
4-Chlorotoluene	"	"	"	EPA 8260A	0.200	ND	"	
Dibromochloromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dibromo-3-chloropropane	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dibromoethane	"	"	"	EPA 8260A	0.200	ND	"	
Dibromomethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Dichlorodifluoromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
cis-1,2-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
trans-1,2-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,3-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
2,2-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	
cis-1,3-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	
trans-1,3-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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12/3/02*



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-98 (continued)</b>		<b>S211006-02</b>			<b>Other (S)</b>			
Ethylbenzene	2110046	11/12/02	11/14/02	EPA 8260A	0.200	ND	mg/kg dry	
Hexachlorobutadiene	"	"	"	EPA 8260A	0.200	ND	"	
2-Hexanone	"	"	"	EPA 8260A	2.00	ND	"	
Isopropylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
p-Isopropyltoluene	"	"	"	EPA 8260A	0.200	ND	"	
Methylene chloride	"	"	"	EPA 8260A	2.00	ND	"	
4-Methyl-2-pentanone	"	"	"	EPA 8260A	2.00	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	0.200	ND	"	
Naphthalene	"	"	"	EPA 8260A	0.200	ND	"	
n-Propylbenzene	"	"	"	EPA 8260A	0.200	0.355	"	
Styrene	"	"	"	EPA 8260A	0.200	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Tetrachloroethene	"	"	"	EPA 8260A	0.0600	0.0982	"	
Toluene	"	"	"	EPA 8260A	0.200	ND	"	
1,2,3-Trichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,1,1-Trichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1,2-Trichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Trichloroethene	"	"	"	EPA 8260A	0.0600	0.0708	"	
Trichlorofluoromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2,3-Trichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,2,4-Trimethylbenzene	"	"	"	EPA 8260A	0.200	0.685	"	
1,3,5-Trimethylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Vinyl chloride	"	"	"	EPA 8260A	0.200	ND	"	
o-Xylene	"	"	"	EPA 8260A	0.400	ND	"	
m,p-Xylene	"	"	"	EPA 8260A	0.800	ND	"	
Surrogate: 1,2-dichloroethane-d4	"	"	"	50-150		78.7	%	
Surrogate: Toluene-d8	"	"	"	50-150		73.1	"	
Surrogate: 4-bromofluorobenzene	"	"	"	50-150		90.1	"	

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-103</b>			<b>S211006-03</b>				<b>Other (S)</b>	
Acetone	2110046	11/12/02	11/14/02	EPA 8260A	2.00	3.32	mg/kg dry	
Benzene	"	"	"	EPA 8260A	0.0600	ND	"	
Bromobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Bromochloromethane	"	"	"	EPA 8260A	0.200	ND	"	
Bromodichloromethane	"	"	"	EPA 8260A	0.200	ND	"	
Bromoform	"	"	"	EPA 8260A	0.200	ND	"	
Bromomethane	"	"	"	EPA 8260A	1.00	ND	"	
2-Butanone	"	"	"	EPA 8260A	2.00	ND	"	
n-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
sec-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
tert-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Carbon disulfide	"	"	"	EPA 8260A	0.200	ND	"	
Carbon tetrachloride	"	"	"	EPA 8260A	0.200	ND	"	
Chlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Chloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Chloroform	"	"	"	EPA 8260A	0.200	ND	"	
Chloromethane	"	"	"	EPA 8260A	1.00	ND	"	
2-Chlorotoluene	"	"	"	EPA 8260A	0.200	ND	"	
4-Chlorotoluene	"	"	"	EPA 8260A	0.200	ND	"	
Dibromochloromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dibromo-3-chloropropane	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dibromoethane	"	"	"	EPA 8260A	0.200	ND	"	
Dibromomethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Dichlorodifluoromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
cis-1,2-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
trans-1,2-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,3-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
2,2-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	
cis-1,3-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	
trans-1,3-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-103 (continued)</b>		<b>S211006-03</b>			<b>Other (S)</b>			
Ethylbenzene	2110046	11/12/02	11/14/02	EPA 8260A	0.200	ND	mg/kg dry	
Hexachlorobutadiene	"	"	"	EPA 8260A	0.200	ND	"	
2-Hexanone	"	"	"	EPA 8260A	2.00	ND	"	
Isopropylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
p-Isopropyltoluene	"	"	"	EPA 8260A	0.200	ND	"	
Methylene chloride	"	"	"	EPA 8260A	2.00	ND	"	
4-Methyl-2-pentanone	"	"	"	EPA 8260A	2.00	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	0.200	ND	"	
Naphthalene	"	"	"	EPA 8260A	0.200	ND	"	
n-Propylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Styrene	"	"	"	EPA 8260A	0.200	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"	EPA 8260A	0.200	ND	"	
<b>Tetrachloroethene</b>	"	"	"	EPA 8260A	0.0600	<b>0.221</b>	"	
Toluene	"	"	"	EPA 8260A	0.200	ND	"	
1,2,3-Trichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,1,1-Trichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1,2-Trichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
<b>Trichloroethene</b>	"	"	"	EPA 8260A	0.0600	<b>0.0716</b>	"	
Trichlorofluoromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2,3-Trichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,2,4-Trimethylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,3,5-Trimethylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Vinyl chloride	"	"	"	EPA 8260A	0.200	ND	"	
o-Xylene	"	"	"	EPA 8260A	0.400	ND	"	
m,p-Xylene	"	"	"	EPA 8260A	0.800	ND	"	
Surrogate: 1,2-dichloroethane-d4	"	"	"	50-150		87.1	%	
Surrogate: Toluene-d8	"	"	"	50-150		113	"	
Surrogate: 4-bromofluorobenzene	"	"	"	50-150		168	"	S-05

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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**North Creek Analytical, Inc.**  
**Environmental Laboratory Network**

Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-53</b>			<b>S211006-07</b>				<b>Other (S)</b>	
Acetone	2110046	11/12/02	11/14/02	EPA 8260A	2.00	ND	mg/kg dry	
Benzene	"	"	"	EPA 8260A	0.0600	ND	"	
Bromobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Bromochloromethane	"	"	"	EPA 8260A	0.200	ND	"	
Bromodichloromethane	"	"	"	EPA 8260A	0.200	ND	"	
Bromoform	"	"	"	EPA 8260A	0.200	ND	"	
Bromomethane	"	"	"	EPA 8260A	1.00	ND	"	
2-Butanone	"	"	"	EPA 8260A	2.00	ND	"	
n-Butylbenzene	"	"	"	EPA 8260A	0.200	0.277	"	
sec-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
tert-Butylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Carbon disulfide	"	"	"	EPA 8260A	0.200	ND	"	
Carbon tetrachloride	"	"	"	EPA 8260A	0.200	ND	"	
Chlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Chloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Chloroform	"	"	"	EPA 8260A	0.200	ND	"	
Chloromethane	"	"	"	EPA 8260A	1.00	ND	"	
2-Chlorotoluene	"	"	"	EPA 8260A	0.200	ND	"	
4-Chlorotoluene	"	"	"	EPA 8260A	0.200	ND	"	
Dibromochloromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dibromo-3-chloropropane	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dibromoethane	"	"	"	EPA 8260A	0.200	ND	"	
Dibromomethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
Dichlorodifluoromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
cis-1,2-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
trans-1,2-Dichloroethene	"	"	"	EPA 8260A	0.200	ND	"	
1,2-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,3-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
2,2-Dichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,1-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	
cis-1,3-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	
trans-1,3-Dichloropropene	"	"	"	EPA 8260A	0.200	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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12/3/02



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-53 (continued)</b>		<b>S211006-07</b>			<b>Other (S)</b>			
Ethylbenzene	2110046	11/12/02	11/14/02	EPA 8260A	0.200	ND	mg/kg dry	
Hexachlorobutadiene	"	"	"	EPA 8260A	0.200	ND	"	
2-Hexanone	"	"	"	EPA 8260A	2.00	ND	"	
Isopropylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
p-Isopropyltoluene	"	"	"	EPA 8260A	0.200	ND	"	
Methylene chloride	"	"	"	EPA 8260A	2.00	ND	"	
4-Methyl-2-pentanone	"	"	"	EPA 8260A	2.00	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	0.200	ND	"	
Naphthalene	"	"	"	EPA 8260A	0.200	ND	"	
n-Propylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Styrene	"	"	"	EPA 8260A	0.200	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Tetrachloroethene	"	"	"	EPA 8260A	0.0600	ND	"	
Toluene	"	"	"	EPA 8260A	0.200	ND	"	
1,2,3-Trichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,1,1-Trichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
1,1,2-Trichloroethane	"	"	"	EPA 8260A	0.200	ND	"	
Trichloroethene	"	"	"	EPA 8260A	0.0600	0.0800	"	
Trichlorofluoromethane	"	"	"	EPA 8260A	0.200	ND	"	
1,2,3-Trichloropropane	"	"	"	EPA 8260A	0.200	ND	"	
1,2,4-Trimethylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
1,3,5-Trimethylbenzene	"	"	"	EPA 8260A	0.200	ND	"	
Vinyl chloride	"	"	"	EPA 8260A	0.200	ND	"	
o-Xylene	"	"	"	EPA 8260A	0.400	ND	"	
m,p-Xylene	"	"	"	EPA 8260A	0.800	ND	"	
Surrogate: 1,2-dichloroethane-d4	"	"	"	50-150		96.0	%	
Surrogate: Toluene-d8	"	"	"	50-150		87.6	"	
Surrogate: 4-bromofluorobenzene	"	"	"	50-150		95.0	"	

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-124</b>			<b>S211006-08</b>				<b>Other (S)</b>	
Acetone	2110046	11/12/02	11/15/02	EPA 8260A	25000	ND	mg/kg dry	
<b>Benzene</b>	"	"	"	EPA 8260A	750	<b>980</b>	"	
Bromobenzene	"	"	"	EPA 8260A	2500	ND	"	
Bromochloromethane	"	"	"	EPA 8260A	2500	ND	"	
Bromodichloromethane	"	"	"	EPA 8260A	2500	ND	"	
Bromoform	"	"	"	EPA 8260A	2500	ND	"	
Bromomethane	"	"	"	EPA 8260A	12500	ND	"	
2-Butanone	"	"	"	EPA 8260A	25000	ND	"	
n-Butylbenzene	"	"	"	EPA 8260A	2500	ND	"	
sec-Butylbenzene	"	"	"	EPA 8260A	2500	ND	"	
<b>tert-Butylbenzene</b>	"	"	"	EPA 8260A	2500	<b>32000</b>	"	
Carbon disulfide	"	"	"	EPA 8260A	2500	ND	"	
Carbon tetrachloride	"	"	"	EPA 8260A	2500	ND	"	
Chlorobenzene	"	"	"	EPA 8260A	2500	ND	"	
Chloroethane	"	"	"	EPA 8260A	2500	ND	"	
Chloroform	"	"	"	EPA 8260A	2500	ND	"	
Chloromethane	"	"	"	EPA 8260A	12500	ND	"	
2-Chlorotoluene	"	"	"	EPA 8260A	2500	ND	"	
4-Chlorotoluene	"	"	"	EPA 8260A	2500	ND	"	
Dibromochloromethane	"	"	"	EPA 8260A	2500	ND	"	
1,2-Dibromo-3-chloropropane	"	"	"	EPA 8260A	12500	ND	"	
1,2-Dibromoethane	"	"	"	EPA 8260A	2500	ND	"	
Dibromomethane	"	"	"	EPA 8260A	2500	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8260A	2500	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8260A	2500	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8260A	2500	ND	"	
Dichlorodifluoromethane	"	"	"	EPA 8260A	2500	ND	"	
1,1-Dichloroethane	"	"	"	EPA 8260A	2500	ND	"	
1,2-Dichloroethane	"	"	"	EPA 8260A	2500	ND	"	
1,1-Dichloroethene	"	"	"	EPA 8260A	2500	ND	"	
cis-1,2-Dichloroethene	"	"	"	EPA 8260A	2500	ND	"	
trans-1,2-Dichloroethene	"	"	"	EPA 8260A	2500	ND	"	
1,2-Dichloropropane	"	"	"	EPA 8260A	2500	ND	"	
1,3-Dichloropropane	"	"	"	EPA 8260A	2500	ND	"	
2,2-Dichloropropane	"	"	"	EPA 8260A	2500	ND	"	
1,1-Dichloropropene	"	"	"	EPA 8260A	2500	ND	"	
cis-1,3-Dichloropropene	"	"	"	EPA 8260A	2500	ND	"	
trans-1,3-Dichloropropene	"	"	"	EPA 8260A	2500	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-124 (continued)</b>			<b>S211006-08</b>				<b>Other (S)</b>	
Ethylbenzene	2110046	11/12/02	11/15/02	EPA 8260A	2500	ND	mg/kg dry	
Hexachlorobutadiene	"	"	"	EPA 8260A	2500	ND	"	
2-Hexanone	"	"	"	EPA 8260A	25000	ND	"	
Isopropylbenzene	"	"	"	EPA 8260A	2500	13800	"	
p-Isopropyltoluene	"	"	"	EPA 8260A	2500	ND	"	
Methylene chloride	"	"	"	EPA 8260A	25000	ND	"	
4-Methyl-2-pentanone	"	"	"	EPA 8260A	25000	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	2500	ND	"	
Naphthalene	"	"	"	EPA 8260A	2500	ND	"	
n-Propylbenzene	"	"	"	EPA 8260A	2500	64000	"	
Styrene	"	"	"	EPA 8260A	2500	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"	EPA 8260A	2500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"	EPA 8260A	2500	ND	"	
Tetrachloroethene	"	"	"	EPA 8260A	750	ND	"	
Toluene	"	"	"	EPA 8260A	2500	ND	"	
1,2,3-Trichlorobenzene	"	"	"	EPA 8260A	2500	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8260A	2500	ND	"	
1,1,1-Trichloroethane	"	"	"	EPA 8260A	2500	ND	"	
1,1,2-Trichloroethane	"	"	"	EPA 8260A	2500	ND	"	
Trichloroethene	"	"	"	EPA 8260A	750	ND	"	
Trichlorofluoromethane	"	"	"	EPA 8260A	2500	ND	"	
1,2,3-Trichloropropane	"	"	"	EPA 8260A	2500	ND	"	
1,2,4-Trimethylbenzene	"	"	"	EPA 8260A	10000	271000	"	
1,3,5-Trimethylbenzene	"	"	"	EPA 8260A	2500	109000	"	
Vinyl chloride	"	"	"	EPA 8260A	2500	ND	"	
o-Xylene	"	"	"	EPA 8260A	5000	7720	"	
m,p-Xylene	"	"	"	EPA 8260A	10000	ND	"	
Surrogate: 1,2-dichloroethane-d4	"	"	"	50-150			%	S-01
Surrogate: Toluene-d8	"	"	"	50-150		NR	"	S-01
Surrogate: 4-bromofluorobenzene	"	"	"	50-150			"	S-01

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>Trip Blank</b>				<b>S211006-15</b>			<b>Water</b>	
Acetone	2110043	11/10/02	11/12/02	EPA 8260A	25.0	ND	ug/l	
Benzene	"	"	"	EPA 8260A	1.00	ND	"	
Bromobenzene	"	"	"	EPA 8260A	1.00	ND	"	
Bromochloromethane	"	"	"	EPA 8260A	1.00	ND	"	
Bromodichloromethane	"	"	"	EPA 8260A	1.00	ND	"	
Bromoform	"	"	"	EPA 8260A	1.00	ND	"	
Bromomethane	"	"	"	EPA 8260A	2.00	ND	"	
2-Butanone	"	"	"	EPA 8260A	10.0	ND	"	
n-Butylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
sec-Butylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
tert-Butylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
Carbon disulfide	"	"	"	EPA 8260A	1.00	ND	"	
Carbon tetrachloride	"	"	"	EPA 8260A	1.00	ND	"	
Chlorobenzene	"	"	"	EPA 8260A	1.00	ND	"	
Chloroethane	"	"	"	EPA 8260A	1.00	ND	"	
Chloroform	"	"	"	EPA 8260A	1.00	ND	"	
Chloromethane	"	"	"	EPA 8260A	5.00	ND	"	
2-Chlorotoluene	"	"	"	EPA 8260A	1.00	ND	"	
4-Chlorotoluene	"	"	"	EPA 8260A	1.00	ND	"	
Dibromochloromethane	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dibromo-3-chloropropane	"	"	"	EPA 8260A	5.00	ND	"	
1,2-Dibromoethane	"	"	"	EPA 8260A	1.00	ND	"	
Dibromomethane	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8260A	1.00	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8260A	1.00	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8260A	1.00	ND	"	
Dichlorodifluoromethane	"	"	"	EPA 8260A	1.00	ND	"	
1,1-Dichloroethane	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dichloroethane	"	"	"	EPA 8260A	1.00	ND	"	
1,1-Dichloroethene	"	"	"	EPA 8260A	1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"	EPA 8260A	1.00	ND	"	
trans-1,2-Dichloroethene	"	"	"	EPA 8260A	1.00	ND	"	
1,2-Dichloropropane	"	"	"	EPA 8260A	1.00	ND	"	
1,3-Dichloropropane	"	"	"	EPA 8260A	1.00	ND	"	
2,2-Dichloropropane	"	"	"	EPA 8260A	1.00	ND	"	
1,1-Dichloropropene	"	"	"	EPA 8260A	1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"	EPA 8260A	1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"	EPA 8260A	1.00	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>Trip Blank (continued)</b>		<b>S211006-15</b>			<b>Water</b>			
Ethylbenzene	2110043	11/10/02	11/12/02	EPA 8260A	1.00	ND	ug/l	
Hexachlorobutadiene	"	"	"	EPA 8260A	1.00	ND	"	
2-Hexanone	"	"	"	EPA 8260A	10.0	ND	"	
Isopropylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
p-Isopropyltoluene	"	"	"	EPA 8260A	1.00	ND	"	
Methylene chloride	"	"	"	EPA 8260A	5.00	ND	"	
4-Methyl-2-pentanone	"	"	"	EPA 8260A	10.0	ND	"	
Methyl tert-butyl ether	"	"	"	EPA 8260A	1.00	ND	"	
Naphthalene	"	"	"	EPA 8260A	1.00	ND	"	
n-Propylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
Styrene	"	"	"	EPA 8260A	1.00	ND	"	
1,1,1,2-Tetrachloroethane	"	"	"	EPA 8260A	1.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"	EPA 8260A	1.00	ND	"	
Tetrachloroethene	"	"	"	EPA 8260A	1.00	ND	"	
Toluene	"	"	"	EPA 8260A	1.00	ND	"	
1,2,3-Trichlorobenzene	"	"	"	EPA 8260A	1.00	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8260A	1.00	ND	"	
1,1,1-Trichloroethane	"	"	"	EPA 8260A	1.00	ND	"	
1,1,2-Trichloroethane	"	"	"	EPA 8260A	1.00	ND	"	
Trichloroethene	"	"	"	EPA 8260A	1.00	ND	"	
Trichlorofluoromethane	"	"	"	EPA 8260A	1.00	ND	"	
1,2,3-Trichloropropane	"	"	"	EPA 8260A	1.00	ND	"	
1,2,4-Trimethylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
1,3,5-Trimethylbenzene	"	"	"	EPA 8260A	1.00	ND	"	
Vinyl chloride	"	"	"	EPA 8260A	1.00	ND	"	
o-Xylene	"	"	"	EPA 8260A	1.00	ND	"	
m,p-Xylene	"	"	"	EPA 8260A	2.00	ND	"	
Surrogate: 1,2-dichloroethane-d4	"	"	"	70-130		77.3	%	
Surrogate: Toluene-d8	"	"	"	70-130		101	"	
Surrogate: 4-bromofluorobenzene	"	"	"	70-130		124	"	

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Polychlorinated Biphenyls by EPA Method 8082  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>T40</b>				<b>S211006-16</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/11/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		56.8	%	
<b>Crusher-Comp</b>				<b>S211006-17</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/11/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		63.0	%	
<b>T2</b>				<b>S211006-18</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/11/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	2.32	"	
Surrogate: TCX	"	"	"	44-136		58.8	%	
<b>T7,T8,T9</b>				<b>S211006-19</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	1.93	"	
Surrogate: TCX	"	"	"	44-136		59.8	%	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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*12/31/02*



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Polychlorinated Biphenyls by EPA Method 8082**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>T16</b>				<b>S211006-20</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCA	"	"	"	44-136		62.8	%	
<b>T1,T3</b>				<b>S211006-21</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	5.12	"	
Surrogate: TCA	"	"	"	44-136		64.4	%	
<b>T10 North</b>				<b>S211006-22</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCA	"	"	"	44-136		60.1	%	
<b>T10 South</b>				<b>S211006-23</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCA	"	"	"	44-136		63.5	%	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc 12/31/02*



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Polychlorinated Biphenyls by EPA Method 8082**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>T42</b>				<b>S211006-24</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		64.8	%	
<b>T25</b>				<b>S211006-25</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	25.9	"	
Surrogate: TCX	"	"	"	44-136		60.3	%	
<b>T48</b>				<b>S211006-26</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		65.9	%	
<b>T26,T27,T28</b>				<b>S211006-27</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	2.03	"	
Surrogate: TCX	"	"	"	44-136		63.0	%	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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Polychlorinated Biphenyls by EPA Method 8082  
North Creek Analytical - Spokane

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>T39</b>								
				<b>S211006-28</b>	<b>Other (S)</b>			
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		59.1	%	
<b>T4,T5,T6</b>								
				<b>S211006-29</b>	<b>Other (S)</b>			
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		62.8	%	
<b>T19,T20</b>								
				<b>S211007-01</b>	<b>Other (S)</b>			
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		57.1	%	
<b>T19</b>								
				<b>S211007-02</b>	<b>Other (S)</b>			
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		58.1	%	

North Creek Analytical - Spokane

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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Polychlorinated Biphenyls by EPA Method 8082**  
**North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>T21</b>				<b>S211007-03</b>			<b>Other (S)</b>	
PCB-1016	2110027	11/7/02	11/12/02	EPA 8082	1.00	ND	mg/kg	
PCB-1221	"	"	"	EPA 8082	1.00	ND	"	
PCB-1232	"	"	"	EPA 8082	1.00	ND	"	
PCB-1242	"	"	"	EPA 8082	1.00	ND	"	
PCB-1248	"	"	"	EPA 8082	1.00	ND	"	
PCB-1254	"	"	"	EPA 8082	1.00	ND	"	
PCB-1260	"	"	"	EPA 8082	1.00	ND	"	
Surrogate: TCX	"	"	"	44-136		57.3	%	

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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Conventional Chemistry Parameters by APHA/EPA Methods  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-29</b>								
pH	2110054	11/14/02	11/14/02	EPA 9045		10.0	Other (S) pH Units	
<b>B2</b>								
Sulfate	2110026	11/14/02	11/14/02	EPA 300	1000	ND	Other (S) ppm	
Carbonate	2110026	11/14/02	11/14/02	EPA 310.1	1000	184.500	ppm	
Bicarbonate	2110026	11/14/02	11/14/02	EPA 310.1	1000	22.200	ppm	
<b>B3</b>								
Sulfate	2110026	11/14/02	11/14/02	EPA 300	1000	ND	Other (S) ppm	
Carbonate	2110026	11/14/02	11/14/02	EPA 310.1	1000	33.508	ppm	
Bicarbonate	2110026	11/14/02	11/14/02	EPA 310.1	1000	905.600	ppm	

**General Petroleum Analysis  
Columbia Inspection, Inc.**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-3</b>								
HEAT OF COMBUSTION (GROSS)	2K19018	11/19/02	11/19/02	ASTM D-240	200	19000	Other (S) BTU/Lb	

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**Physical Parameters by APHA/ASTM/EPA Methods  
North Creek Analytical - Spokane**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Result	Units	Notes*
<u>PS-108</u> Flashpoint	2110047	11/14/02	11/14/02	<u>S211006-01</u> EPA 1010	58.0	<u>Other (S)</u> °C	
<u>PS-98</u> Flashpoint	2110047	11/14/02	11/14/02	<u>S211006-02</u> EPA 1010	Greater than 100	<u>Other (S)</u> °C	
<u>PS-103</u> Flashpoint	2110047	11/14/02	11/14/02	<u>S211006-03</u> EPA 1010	Greater than 100	<u>Other (S)</u> °C	
<u>PS-53</u> Flashpoint	2110047	11/14/02	11/14/02	<u>S211006-07</u> EPA 1010	Greater than 100	<u>Other (S)</u> °C	
<u>PS-124</u> Flashpoint	2110047	11/14/02	11/14/02	<u>S211006-08</u> EPA 1010	46.0	<u>Other (S)</u> °C	
<u>PS-3</u> Flashpoint	2110047	11/14/02	11/14/02	<u>S211006-10</u> EPA 1010	Greater than 100	<u>Other (S)</u> °C	

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**Semivolatile Organic Compounds by EPA Method 8270C  
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-3</b>				<b>S211006-10</b>			<b>Other (S)</b>	
Acenaphthene	2K08041	11/8/02	11/13/02	EPA 8270C	248	ND	mg/kg	
Acenaphthylene	"	"	"	EPA 8270C	248	ND	"	
Aniline	"	"	"	EPA 8270C	248	ND	"	
Anthracene	"	"	"	EPA 8270C	248	ND	"	
Benzoic Acid	"	"	"	EPA 8270C	750	ND	"	
Benzo (a) anthracene	"	"	"	EPA 8270C	248	ND	"	
Benzo (b) fluoranthene	"	"	"	EPA 8270C	248	ND	"	
Benzo (k) fluoranthene	"	"	"	EPA 8270C	248	ND	"	
Benzo (ghi) perylene	"	"	"	EPA 8270C	248	ND	"	
Benzo (a) pyrene	"	"	"	EPA 8270C	248	ND	"	
Benzyl alcohol	"	"	"	EPA 8270C	248	ND	"	
Bis(2-chloroethoxy)methane	"	"	"	EPA 8270C	248	ND	"	
Bis(2-chloroethyl) ether	"	"	"	EPA 8270C	248	ND	"	
Bis(2-chloroisopropyl) ether	"	"	"	EPA 8270C	248	ND	"	
Bis(2-ethylhexyl) phthalate	"	"	"	EPA 8270C	248	ND	"	
4-Bromophenyl phenyl ether	"	"	"	EPA 8270C	248	ND	"	
Butyl benzyl phthalate	"	"	"	EPA 8270C	248	ND	"	
Carbazole	"	"	"	EPA 8270C	248	ND	"	
4-Chloroaniline	"	"	"	EPA 8270C	375	ND	"	
2-Chloronaphthalene	"	"	"	EPA 8270C	248	ND	"	
4-Chloro-3-methylphenol	"	"	"	EPA 8270C	248	ND	"	
2-Chlorophenol	"	"	"	EPA 8270C	248	ND	"	
4-Chlorophenyl phenyl ether	"	"	"	EPA 8270C	248	ND	"	
Chrysene	"	"	"	EPA 8270C	248	ND	"	
Dibenz (a,h) anthracene	"	"	"	EPA 8270C	248	ND	"	
Dibenzofuran	"	"	"	EPA 8270C	248	ND	"	
Di-n-butyl phthalate	"	"	"	EPA 8270C	248	ND	"	
1,3-Dichlorobenzene	"	"	"	EPA 8270C	248	ND	"	
1,4-Dichlorobenzene	"	"	"	EPA 8270C	248	ND	"	
1,2-Dichlorobenzene	"	"	"	EPA 8270C	248	ND	"	
3,3'-Dichlorobenzidine	"	"	"	EPA 8270C	3750	ND	"	
2,4-Dichlorophenol	"	"	"	EPA 8270C	248	ND	"	
Diethyl phthalate	"	"	"	EPA 8270C	248	ND	"	
2,4-Dimethylphenol	"	"	"	EPA 8270C	248	ND	"	
Dimethyl phthalate	"	"	"	EPA 8270C	248	ND	"	
4,6-Dinitro-2-methylphenol	"	"	"	EPA 8270C	375	ND	"	
2,4-Dinitrophenol	"	"	"	EPA 8270C	375	ND	"	
2,4-Dinitrotoluene	"	"	"	EPA 8270C	375	ND	"	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Semivolatile Organic Compounds by EPA Method 8270C  
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<b>PS-3 (continued)</b>		<b>SZ11006-10</b>			<b>Other (S)</b>			
2,6-Dinitrotoluene	2K08041	11/8/02	11/13/02	EPA 8270C	375	ND	mg/kg	
Di-n-octyl phthalate	"	"	"	EPA 8270C	248	ND	"	
Fluoranthene	"	"	"	EPA 8270C	248	ND	"	
Fluorene	"	"	"	EPA 8270C	248	ND	"	
Hexachlorobenzene	"	"	"	EPA 8270C	248	ND	"	
Hexachlorobutadiene	"	"	"	EPA 8270C	248	ND	"	
Hexachlorocyclopentadiene	"	"	"	EPA 8270C	375	ND	"	
Hexachloroethane	"	"	"	EPA 8270C	248	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"	EPA 8270C	248	ND	"	
Isophorone	"	"	"	EPA 8270C	248	ND	"	
2-Methylnaphthalene	"	"	"	EPA 8270C	248	ND	"	
2-Methylphenol	"	"	"	EPA 8270C	248	ND	"	
3 & 4-Methylphenol	"	"	"	EPA 8270C	248	ND	"	
Naphthalene	"	"	"	EPA 8270C	248	ND	"	
2-Nitroaniline	"	"	"	EPA 8270C	375	ND	"	
3-Nitroaniline	"	"	"	EPA 8270C	375	ND	"	
4-Nitroaniline	"	"	"	EPA 8270C	375	ND	"	
Nitrobenzene	"	"	"	EPA 8270C	248	ND	"	
2-Nitrophenol	"	"	"	EPA 8270C	248	ND	"	
4-Nitrophenol	"	"	"	EPA 8270C	375	ND	"	
N-Nitrosodiphenylamine	"	"	"	EPA 8270C	248	ND	"	
N-Nitrosodi-n-propylamine	"	"	"	EPA 8270C	248	ND	"	
Pentachlorophenol	"	"	"	EPA 8270C	375	ND	"	
Phenanthrene	"	"	"	EPA 8270C	248	ND	"	
Phenol	"	"	"	EPA 8270C	248	ND	"	
Pyrene	"	"	"	EPA 8270C	248	ND	"	
1,2,4-Trichlorobenzene	"	"	"	EPA 8270C	248	ND	"	
2,4,5-Trichlorophenol	"	"	"	EPA 8270C	248	ND	"	
2,4,6-Trichlorophenol	"	"	"	EPA 8270C	248	ND	"	
Surrogate: 2-FP	"	"	"	47-119		198	%	S-03
Surrogate: Phenol-d6	"	"	"	52-117		75.2	"	
Surrogate: 2,4,6-TBP	"	"	"	30-137		74.4	"	
Surrogate: Nitrobenzene-d5	"	"	"	44-127		80.0	"	
Surrogate: 2-FBP	"	"	"	53-121		92.8	"	
Surrogate: p-Terphenyl-d14	"	"	"	36-144		82.4	"	

North Creek Analytical - Spokane

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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Dry Weight Determination**  
**North Creek Analytical - Spokane**

Sample Name	Lab ID	Matrix	Result	Units
B1	S211006-12	Other (S)	100	%
B2	S211006-13	Other (S)	100	%
B3	S211006-14	Other (S)	100	%

North Creek Analytical - Spokane

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**North Creek Analytical, Inc.**  
**Environmental Laboratory Network**



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Semivolatile Petroleum Products by NWTPH-Dx/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	RPD %	RPD Limit	% Notes*
<b>Batch: 2110032</b>									
<b>Blank</b>									
Diesel Range Hydrocarbons	11/11/02			ND	mg/kg dry	1200			
Lube Oil	"			ND	"	3000			
Surrogate: 2-FBP	"	400		345	"	50-150	86.2		
Surrogate: p-Terphenyl-d14	"	400		382	"	50-150	95.5		
<b>LCS</b>									
Diesel Range Hydrocarbons	11/11/02	10000		9840	mg/kg dry	50-150	98.4		
Surrogate: 2-FBP	"	400		410	"	50-150	102		
Surrogate: p-Terphenyl-d14	"	400		381	"	50-150	95.2		
<b>Duplicate</b>									
Diesel Range Hydrocarbons	11/11/02		ND	ND	mg/kg dry			50	
Lube Oil	"		ND	ND	"			50	
Surrogate: 2-FBP	"	400		364	"	50-150	91.0		
Surrogate: p-Terphenyl-d14	"	400		402	"	50-150	100		
<b>Matrix Spike</b>									
Diesel Range Hydrocarbons	11/11/02	10000	ND	14000	mg/kg dry	50-150	140		
Surrogate: 2-FBP	"	400		522	"	50-150	130		
Surrogate: p-Terphenyl-d14	"	400		431	"	50-150	108		

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Total Metals by EPA 6010/7000 Series Methods/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
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**Batch: 2110025**

**Date Prepared: 11/7/02**

**Extraction Method: EPA 3050**

**Blank**

**2110025-BLK1**

Antimony	11/7/02			ND	mg/kg dry	2.62				
Arsenic	"			ND	"	6.88				
Beryllium	"			ND	"	0.0728				
Cadmium	"			ND	"	0.173				
Chromium	"			ND	"	0.425				
Copper	"			ND	"	0.745				
Nickel	"			ND	"	1.13				
Selenium	"			ND	"	4.35				
Silver	"			ND	"	0.756				
Thallium	"			ND	"	10.6				
Zinc	"			ND	"	0.238				
Lead	"			ND	"	3.32				

**LCS**

**2110025-BS1**

Antimony	11/7/02	50.0		49.0	mg/kg dry	80-135	98.0			
Arsenic	"	50.0		51.4	"	80-140	103			
Beryllium	"	50.0		51.2	"	80-120	102			
Cadmium	"	49.8		51.2	"	70-140	103			
Chromium	"	49.9		51.0	"	70-135	102			
Copper	"	50.2		51.7	"	70-135	103			
Nickel	"	50.0		51.0	"	80-142	102			
Selenium	"	50.0		45.3	"	80-130	90.6			
Silver	"	50.3		43.7	"	70-130	86.9			
Thallium	"	49.9		48.7	"	60-137	97.6			
Zinc	"	50.0		50.6	"	80-145	101			
Lead	"	49.9		49.7	"	70-135	99.6			

**Duplicate**

**2110025-DUP1 S210086-01**

Antimony	11/7/02		3.07	ND	mg/kg dry			20		
Arsenic	"		ND	ND	"			20		
Beryllium	"		0.264	0.264	"			20	0.00	
Cadmium	"		ND	ND	"			20		
Chromium	"		14.2	14.9	"			20	4.81	
Copper	"		22.2	21.6	"			20	2.74	
Nickel	"		11.4	10.9	"			20	4.48	
Selenium	"		ND	ND	"			20		
Silver	"		ND	ND	"			20		

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gac 12/3/02*

Herrera 2200 6th Ave.. #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Total Metals by EPA 6010/7000 Series Methods/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Duplicate (continued)</b>										
	<b>2110025-DUP1</b>	<b>S210086-01</b>								
Thallium	11/7/02		ND	ND	mg/kg dry			20		
Zinc	"		48.0	47.5	"			20	1.05	
Lead	"		13.2	13.4	"			20	1.50	
<b>Matrix Spike</b>										
	<b>2110025-MS1</b>	<b>S210086-01</b>								
Antimony	11/7/02	51.8	3.07	49.5	mg/kg dry	70-130	89.6			
Arsenic	"	51.7	ND	50.5	"	70-130	97.7			
Beryllium	"	51.7	0.264	53.3	"	70-130	103			
Cadmium	"	51.6	ND	51.1	"	70-130	99.0			
Chromium	"	51.7	14.2	64.7	"	70-130	97.7			
Copper	"	52.0	22.2	70.8	"	69-130	93.5			
Nickel	"	51.7	11.4	59.1	"	70-130	92.3			
Selenium	"	51.8	ND	54.6	"	70-130	105			
Silver	"	52.0	ND	43.6	"	70-130	83.8			
Thallium	"	51.7	ND	56.8	"	70-130	110			
Zinc	"	51.7	48.0	95.2	"	70-130	91.3			
Lead	"	51.7	13.2	60.7	"	70-130	91.9			
<b>Matrix Spike Dup</b>										
	<b>2110025-MSD1</b>	<b>S210086-01</b>								
Antimony	11/7/02	51.8	3.07	49.7	mg/kg dry	70-130	90.0	20	0.403	
Arsenic	"	51.7	ND	50.7	"	70-130	98.1	20	0.395	
Beryllium	"	51.7	0.264	54.2	"	70-130	104	20	1.67	
Cadmium	"	51.6	ND	51.5	"	70-130	99.8	20	0.780	
Chromium	"	51.7	14.2	72.2	"	70-130	112	20	11.0	
Copper	"	52.0	22.2	76.1	"	69-130	104	20	7.22	
Nickel	"	51.7	11.4	63.4	"	70-130	101	20	7.02	
Selenium	"	51.8	ND	48.7	"	70-130	94.0	20	11.4	
Silver	"	52.0	ND	44.3	"	70-130	85.2	20	1.59	
Thallium	"	51.7	ND	70.2	"	70-130	136	20	21.1	Q-01
Zinc	"	51.7	48.0	102	"	70-130	104	20	6.90	
Lead	"	51.7	13.2	63.3	"	70-130	96.9	20	4.19	

**Batch: 2110042**

**Date Prepared: 11/11/02**

**Extraction Method: EPA 3050**

**Blank**

**2110042-BLKI**

Mercury

11/13/02

ND

ug/kg

12.8

**LCS**

**2110042-BS1**

Mercury

11/13/02

250

262

ug/kg

80-120

105

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc  
12/3/02*



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Total Metals by EPA 6010/7000 Series Methods/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery %	RPD Limit	RPD %	Notes*
<b>Duplicate</b>	<b>2110042-DUP1</b>	<b>S211009-01</b>							
Mercury	11/13/02		53.5	47.5	ug/kg		15.7	11.9	
<b>Matrix Spike</b>	<b>2110042-MS1</b>	<b>S211009-01</b>							
Mercury	11/13/02	250	53.5	288	ug/kg	75-125	93.8		
<b>Matrix Spike Dup</b>	<b>2110042-MSD1</b>	<b>S211009-01</b>							
Mercury	11/13/02	250	53.5	283	ug/kg	75-125	91.8	20	1.75
<b>Batch: 2110061</b>	<b>Date Prepared: 11/18/02</b>								
<b>Blank</b>	<b>2110061-BLK1</b>								
Barium	11/18/02			ND	mg/kg dry	0.425			
Calcium	"			2.32	"	1.52			
Iron	"			ND	"	0.355			
Magnesium	"			5.57	"	3.34			
Potassium	"			ND	"	22.3			
Sodium	"			16.1	"	2.66			
<b>LCS</b>	<b>2110061-BS1</b>								
Barium	11/18/02	50.1		47.8	mg/kg dry	80-149	95.4		
Calcium	"	50.0		51.2	"	80-120	102		
Iron	"	50.0		47.7	"	80-120	95.4		
Magnesium	"	50.0		61.4	"	75-120	123		Q-01
Potassium	"	502		463	"	70-120	92.2		
Sodium	"	500		404	"	80-200	80.8		
<b>LCS Dup</b>	<b>2110061-BSD1</b>								
Barium	11/18/02	50.1		48.0	mg/kg dry	80-149	95.8	20	0.418
Calcium	"	50.0		53.6	"	80-120	107	20	4.58
Iron	"	50.0		49.1	"	80-120	98.2	20	2.89
Magnesium	"	50.0		56.0	"	75-120	112	20	9.20
Potassium	"	502		500	"	70-120	99.6	20	7.68
Sodium	"	500		510	"	80-200	102	20	23.2 Q-01

*gpc 12/31/02*



Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
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<b>Batch: 2110043</b>	<b>Date Prepared: 11/10/02</b>	<b>Extraction Method: GC/MS Volatiles</b>
<b>Blank</b>	<b>2110043-BLK1</b>	
Acetone	11/11/02	ND ug/l 25.0
Benzene	"	ND " 1.00
Bromobenzene	"	ND " 1.00
Bromochloromethane	"	ND " 1.00
Bromodichloromethane	"	ND " 1.00
Bromoform	"	ND " 1.00
Bromomethane	"	ND " 2.00
2-Butanone	"	ND " 10.0
n-Butylbenzene	"	ND " 1.00
sec-Butylbenzene	"	ND " 1.00
tert-Butylbenzene	"	ND " 1.00
Carbon disulfide	"	ND " 1.00
Carbon tetrachloride	"	ND " 1.00
Chlorobenzene	"	ND " 1.00
Chloroethane	"	ND " 1.00
Chloroform	"	ND " 1.00
Chloromethane	"	ND " 5.00
2-Chlorotoluene	"	ND " 1.00
4-Chlorotoluene	"	ND " 1.00
Dibromochloromethane	"	ND " 1.00
1,2-Dibromo-3-chloropropane	"	ND " 5.00
1,2-Dibromoethane	"	ND " 1.00
Dibromomethane	"	ND " 1.00
1,2-Dichlorobenzene	"	ND " 1.00
1,3-Dichlorobenzene	"	ND " 1.00
1,4-Dichlorobenzene	"	ND " 1.00
Dichlorodifluoromethane	"	ND " 1.00
1,1-Dichloroethane	"	ND " 1.00
1,2-Dichloroethane	"	ND " 1.00
1,1-Dichloroethene	"	ND " 1.00
cis-1,2-Dichloroethene	"	ND " 1.00
trans-1,2-Dichloroethene	"	ND " 1.00
1,2-Dichloropropane	"	ND " 1.00
1,3-Dichloropropane	"	ND " 1.00
2,2-Dichloropropane	"	ND " 1.00
1,1-Dichloropropene	"	ND " 1.00
cis-1,3-Dichloropropene	"	ND " 1.00

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc  
12/31/02*



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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Blank (continued) 2110043-BLK1</b>										
trans-1,3-Dichloropropene	11/11/02			ND	ug/l		1.00			
Ethylbenzene	"			ND	"		1.00			
Hexachlorobutadiene	"			ND	"		1.00			
2-Hexanone	"			ND	"		10.0			
Isopropylbenzene	"			ND	"		1.00			
p-Isopropyltoluene	"			ND	"		1.00			
Methylene chloride	"			ND	"		5.00			
4-Methyl-2-pentanone	"			ND	"		10.0			
Methyl tert-butyl ether	"			ND	"		1.00			
Naphthalene	"			ND	"		1.00			
n-Propylbenzene	"			ND	"		1.00			
Styrene	"			ND	"		1.00			
1,1,1,2-Tetrachloroethane	"			ND	"		1.00			
1,1,2,2-Tetrachloroethane	"			ND	"		1.00			
Tetrachloroethene	"			ND	"		1.00			
Toluene	"			ND	"		1.00			
1,2,3-Trichlorobenzene	"			ND	"		1.00			
1,2,4-Trichlorobenzene	"			ND	"		1.00			
1,1,1-Trichloroethane	"			ND	"		1.00			
1,1,2-Trichloroethane	"			ND	"		1.00			
Trichloroethene	"			ND	"		1.00			
Trichlorofluoromethane	"			ND	"		1.00			
1,2,3-Trichloropropane	"			ND	"		1.00			
1,2,4-Trimethylbenzene	"			ND	"		1.00			
1,3,5-Trimethylbenzene	"			ND	"		1.00			
Vinyl chloride	"			ND	"		1.00			
o-Xylene	"			ND	"		1.00			
m,p-Xylene	"			ND	"		2.00			
Surrogate: 1,2-dichloroethane-d4	"	25.1		20.7	"	70-130	82.5			
Surrogate: Toluene-d8	"	25.1		24.5	"	70-130	97.6			
Surrogate: 4-bromofluorobenzene	"	25.1		28.7	"	70-130	114			
<b>LCS 2110043-BS1</b>										
Benzene	11/11/02	10.0		11.2	ug/l	85-114	112			
Chlorobenzene	"	10.0		10.9	"	89-109	109			
1,1-Dichloroethene	"	10.0		8.34	"	52-145	83.4			
Toluene	"	10.0		10.7	"	87-112	107			
Trichloroethene	"	10.0		10.4	"	87-113	104			

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc 12/3/02*



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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B/Quality Control**  
**North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit	Recovery	RPD	RPD
						Recovery Limits	%	Limit	% Notes*
<b>LCS (continued)</b>									
<b>2110043-BS1</b>									
Surrogate: 1,2-dichloroethane-d4	11/11/02	25.1		25.1	ug/l	70-130	100		
Surrogate: Toluene-d8	"	25.1		26.0	"	70-130	104		
Surrogate: 4-bromofluorobenzene	"	25.1		31.4	"	70-130	125		
<b>Duplicate</b>									
<b>2110043-DUP1 S210077-01</b>									
Acetone	11/11/02		ND	ND	ug/l			200	
Benzene	"		ND	ND	"			200	
Bromobenzene	"		ND	ND	"			200	
Bromochloromethane	"		ND	ND	"			200	
Bromodichloromethane	"		ND	ND	"			200	
Bromoform	"		ND	ND	"			200	
Bromomethane	"		ND	ND	"			200	2.78
2-Butanone	"		ND	ND	"			200	
n-Butylbenzene	"		ND	ND	"			200	
sec-Butylbenzene	"		ND	ND	"			200	
tert-Butylbenzene	"		ND	ND	"			200	
Carbon disulfide	"		ND	ND	"			200	
Carbon tetrachloride	"		ND	ND	"			200	
Chlorobenzene	"		ND	ND	"			200	
Chloroethane	"		ND	ND	"			200	
Chloroform	"		ND	ND	"			200	
Chloromethane	"		ND	ND	"			200	
2-Chlorotoluene	"		ND	ND	"			200	
4-Chlorotoluene	"		ND	ND	"			200	
Dibromochloromethane	"		ND	ND	"			200	
1,2-Dibromo-3-chloropropane	"		ND	ND	"			200	
1,2-Dibromoethane	"		ND	ND	"			200	
Dibromomethane	"		ND	ND	"			200	
1,2-Dichlorobenzene	"		ND	ND	"			200	
1,3-Dichlorobenzene	"		ND	ND	"			200	
1,4-Dichlorobenzene	"		ND	ND	"			200	
Dichlorodifluoromethane	"		ND	ND	"			200	
1,1-Dichloroethane	"		ND	ND	"			200	
1,2-Dichloroethane	"		ND	ND	"			200	
1,1-Dichloroethene	"		ND	ND	"			200	
cis-1,2-Dichloroethene	"		ND	ND	"			200	1.03
trans-1,2-Dichloroethene	"		ND	ND	"			200	
1,2-Dichloropropane	"		ND	ND	"			200	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

gpc  
12/31/02



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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Duplicate (continued)</b>	<b>2110043-DUP1</b>	<b>S210077-01</b>								
1,3-Dichloropropane	11/11/02		ND	ND	ug/l			200		
2,2-Dichloropropane	"		ND	ND	"			200		
1,1-Dichloropropene	"		ND	ND	"			200		
cis-1,3-Dichloropropene	"		ND	ND	"			200		
trans-1,3-Dichloropropene	"		ND	ND	"			200		
Ethylbenzene	"		ND	ND	"			200		
Hexachlorobutadiene	"		ND	ND	"			200		
2-Hexanone	"		ND	ND	"			200		
Isopropylbenzene	"		ND	ND	"			200		
p-Isopropyltoluene	"		ND	ND	"			200		
Methylene chloride	"		ND	ND	"			200		
4-Methyl-2-pentanone	"		ND	ND	"			200		
Methyl tert-butyl ether	"		ND	ND	"			200		
Naphthalene	"		ND	ND	"			200		
n-Propylbenzene	"		ND	ND	"			200		
Styrene	"		ND	ND	"			200		
1,1,1,2-Tetrachloroethane	11/12/02		ND	ND	"			200		
1,1,2,2-Tetrachloroethane	11/11/02		ND	ND	"			200		
Tetrachloroethene	11/12/02		132	135	"			200	2.25	
Toluene	11/11/02		ND	ND	"			200		
1,2,3-Trichlorobenzene	"		ND	ND	"			200		
1,2,4-Trichlorobenzene	"		ND	ND	"			200		
1,1,1-Trichloroethane	"		ND	ND	"			200		
1,1,2-Trichloroethane	"		ND	ND	"			200		
Trichloroethene	"		7.98	7.84	"			200	1.77	
Trichlorofluoromethane	"		ND	ND	"			200		
1,2,3-Trichloropropane	"		ND	ND	"			200		
1,2,4-Trimethylbenzene	"		ND	ND	"			200		
1,3,5-Trimethylbenzene	"		ND	ND	"			200		
Vinyl chloride	"		ND	ND	"			200		
o-Xylene	"		ND	ND	"			200		
m,p-Xylene	"		ND	ND	"			200		
Surrogate: 1,2-dichloroethane-d4	"	25.1		24.9	"	70-130	99.2			
Surrogate: Toluene-d8	"	25.1		25.4	"	70-130	101			
Surrogate: 4-bromofluorobenzene	"	25.1		30.5	"	70-130	122			
<b>Matrix Spike</b>	<b>2110043-MS1</b>	<b>S210077-01</b>								
Benzene	11/11/02	10.0	ND	10.7	ug/l	70-130	107			

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*Handwritten:* OK 12/3/02

Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	RPD %	RPD Limit	Notes*
<b>Matrix Spike (continued)</b>									
	<b>2110043-MS1</b>	<b>S210077-01</b>							
Chlorobenzene	11/11/02	10.0	ND	10.7	ug/l	70-130	107		
1,1-Dichloroethene	"	10.0	ND	8.95	"	70-130	89.5		
Toluene	"	10.0	ND	10.7	"	70-130	107		
Trichloroethene	"	10.0	7.98	13.3	"	70-130	53.2		Q-01
Surrogate: 1,2-dichloroethane-d4	"	25.1		25.8	"	70-130	103		
Surrogate: Toluene-d8	"	25.1		25.6	"	70-130	102		
Surrogate: 4-bromofluorobenzene	"	25.1		31.6	"	70-130	126		

**Batch: 2110046**

**Date Prepared: 11/12/02**

**Extraction Method: GC/MS Volatiles**

**Blank**

**2110046-BLK1**

Acetone	11/14/02	ND	mg/kg dry	1.00
Benzene	"	ND	"	0.0300
Bromobenzene	"	ND	"	0.100
Bromochloromethane	"	ND	"	0.100
Bromodichloromethane	"	ND	"	0.100
Bromoform	"	ND	"	0.100
Bromomethane	"	ND	"	0.500
2-Butanone	"	ND	"	1.00
n-Butylbenzene	"	ND	"	0.100
sec-Butylbenzene	"	ND	"	0.100
tert-Butylbenzene	"	ND	"	0.100
Carbon disulfide	"	ND	"	0.100
Carbon tetrachloride	"	ND	"	0.100
Chlorobenzene	"	ND	"	0.100
Chloroethane	"	ND	"	0.100
Chloroform	"	ND	"	0.100
Chloromethane	"	ND	"	0.500
2-Chlorotoluene	"	ND	"	0.100
4-Chlorotoluene	"	ND	"	0.100
Dibromochloromethane	"	ND	"	0.100
1,2-Dibromo-3-chloropropane	"	ND	"	0.500
1,2-Dibromoethane	"	ND	"	0.100
Dibromomethane	"	ND	"	0.100
1,2-Dichlorobenzene	"	ND	"	0.100
1,3-Dichlorobenzene	"	ND	"	0.100
1,4-Dichlorobenzene	"	ND	"	0.100
Dichlorodifluoromethane	"	ND	"	0.100
1,1-Dichloroethane	"	ND	"	0.100

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*OK 12/12/02*

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Blank (continued)</b>	<b>2110046-BLK1</b>									
1,2-Dichloroethane	11/14/02			ND	mg/kg dry	0.100				
1,1-Dichloroethene	"			ND	"	0.100				
cis-1,2-Dichloroethene	"			ND	"	0.100				
trans-1,2-Dichloroethene	"			ND	"	0.100				
1,2-Dichloropropane	"			ND	"	0.100				
1,3-Dichloropropane	"			ND	"	0.100				
2,2-Dichloropropane	"			ND	"	0.100				
1,1-Dichloropropene	"			ND	"	0.100				
cis-1,3-Dichloropropene	"			ND	"	0.100				
trans-1,3-Dichloropropene	"			ND	"	0.100				
Ethylbenzene	"			ND	"	0.100				
Hexachlorobutadiene	"			ND	"	0.100				
2-Hexanone	"			ND	"	1.00				
Isopropylbenzene	"			ND	"	0.100				
p-Isopropyltoluene	"			ND	"	0.100				
Methylene chloride	"			ND	"	1.00				
4-Methyl-2-pentanone	"			ND	"	1.00				
Methyl tert-butyl ether	"			ND	"	0.100				
Naphthalene	"			ND	"	0.100				
n-Propylbenzene	"			ND	"	0.100				
Styrene	"			ND	"	0.100				
1,1,1,2-Tetrachloroethane	"			ND	"	0.100				
1,1,2,2-Tetrachloroethane	"			ND	"	0.100				
Tetrachloroethene	"			ND	"	0.0300				
Toluene	"			ND	"	0.100				
1,2,3-Trichlorobenzene	"			ND	"	0.100				
1,2,4-Trichlorobenzene	"			ND	"	0.100				
1,1,1-Trichloroethane	"			ND	"	0.100				
1,1,2-Trichloroethane	"			ND	"	0.100				
Trichloroethene	"			ND	"	0.0300				
Trichlorofluoromethane	"			ND	"	0.100				
1,2,3-Trichloropropane	"			ND	"	0.100				
1,2,4-Trimethylbenzene	"			ND	"	0.100				
1,3,5-Trimethylbenzene	"			ND	"	0.100				
Vinyl chloride	"			ND	"	0.100				
o-Xylene	"			ND	"	0.200				
m,p-Xylene	"			ND	"	0.400				
Surrogate: 1,2-dichloroethane-d4	"	1.00	1.14	"	"	50-150	114			

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*APC 12/3/02*

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**North Creek Analytical, Inc.  
Environmental Laboratory Network**

Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	RPD %	RPD Limit	Notes*
<b>Blank (continued)</b>									
<b>2110046-BLK1</b>									
Surrogate: Toluene-d8	11/14/02	1.00		1.22	mg/kg dry	50-150	122		
Surrogate: 4-bromofluorobenzene	"	1.00		1.38	"	50-150	138		
<b>LCS</b>									
<b>2110046-BS1</b>									
Benzene	11/14/02	1.00		1.19	mg/kg dry	50-150	119		
Chlorobenzene	"	1.00		1.20	"	50-150	120		
1,1-Dichloroethene	"	1.00		0.801	"	50-150	80.1		
Toluene	"	1.00		1.20	"	50-150	120		
Trichloroethene	"	1.00		1.07	"	50-150	107		
Surrogate: 1,2-dichloroethane-d4	"	1.00		1.33	"	50-150	133		
Surrogate: Toluene-d8	"	1.00		1.33	"	50-150	133		
Surrogate: 4-bromofluorobenzene	"	1.00		1.58	"	50-150	158		S-05
<b>Duplicate</b>									
<b>2110046-DUP1 S210086-01</b>									
Acetone	11/14/02		ND	ND	mg/kg dry			200	
Benzene	"		ND	ND	"			200	
Bromobenzene	"		ND	ND	"			200	
Bromochloromethane	"		ND	ND	"			200	
Bromodichloromethane	"		ND	ND	"			200	
Bromoform	"		ND	ND	"			200	
Bromomethane	"		ND	ND	"			200	5.91
2-Butanone	"		ND	ND	"			200	4.93
n-Butylbenzene	"		ND	ND	"			200	
sec-Butylbenzene	"		ND	ND	"			200	
tert-Butylbenzene	"		ND	ND	"			200	
Carbon disulfide	"		ND	ND	"			200	
Carbon tetrachloride	"		ND	ND	"			200	
Chlorobenzene	"		ND	ND	"			200	
Chloroethane	"		ND	ND	"			200	
Chloroform	"		ND	ND	"			200	
Chloromethane	"		ND	ND	"			200	
2-Chlorotoluene	"		ND	ND	"			200	
4-Chlorotoluene	"		ND	ND	"			200	
Dibromochloromethane	"		ND	ND	"			200	
1,2-Dibromo-3-chloropropane	"		ND	ND	"			200	
1,2-Dibromoethane	"		ND	ND	"			200	
Dibromomethane	"		ND	ND	"			200	
1,2-Dichlorobenzene	"		ND	ND	"			200	

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

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12/31/02

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Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Duplicate (continued)</b>	<b>2110046-DUP1</b>	<b>S210086-01</b>								
1,3-Dichlorobenzene	11/14/02		ND	ND	mg/kg dry			200		
1,4-Dichlorobenzene	"		ND	ND	"			200		
Dichlorodifluoromethane	"		ND	ND	"			200		
1,1-Dichloroethane	"		ND	ND	"			200		
1,2-Dichloroethane	"		ND	ND	"			200		
1,1-Dichloroethene	"		ND	ND	"			200		
cis-1,2-Dichloroethene	"		ND	ND	"			200		
trans-1,2-Dichloroethene	"		ND	ND	"			200		
1,2-Dichloropropane	"		ND	ND	"			200		
1,3-Dichloropropane	"		ND	ND	"			200		
2,2-Dichloropropane	"		ND	ND	"			200		
1,1-Dichloropropene	"		ND	ND	"			200		
cis-1,3-Dichloropropene	"		ND	ND	"			200		
trans-1,3-Dichloropropene	"		ND	ND	"			200		
Ethylbenzene	"		ND	ND	"			200		
Hexachlorobutadiene	"		ND	ND	"			200		
2-Hexanone	"		ND	ND	"			200	16.9	
Isopropylbenzene	"		ND	ND	"			200		
p-Isopropyltoluene	"		ND	ND	"			200		
Methylene chloride	"		ND	ND	"			200		
4-Methyl-2-pentanone	"		ND	ND	"			200		
Methyl tert-butyl ether	"		ND	ND	"			200		
Naphthalene	"		ND	ND	"			200		
n-Propylbenzene	"		ND	ND	"			200		
Styrene	"		ND	ND	"			200		
1,1,1,2-Tetrachloroethane	"		ND	ND	"			200		
1,1,2,2-Tetrachloroethane	"		ND	ND	"			200		
Tetrachloroethene	"		ND	ND	"			200		
Toluene	"		ND	ND	"			200		
1,2,3-Trichlorobenzene	"		ND	ND	"			200		
1,2,4-Trichlorobenzene	"		ND	ND	"			200		
1,1,1-Trichloroethane	"		ND	ND	"			200		
1,1,2-Trichloroethane	"		ND	ND	"			200		
Trichloroethene	"		ND	ND	"			200		
Trichlorofluoromethane	"		ND	ND	"			200		
1,2,3-Trichloropropane	"		ND	ND	"			200		
1,2,4-Trimethylbenzene	"		ND	ND	"			200		
1,3,5-Trimethylbenzene	"		ND	ND	"			200		

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc 12/31/02*



Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Volatile Organic Compounds by EPA Method 8260B/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	RPD %	RPD Limit	Notes*
<b>Duplicate (continued)</b>									
<b>2110046-DUPL</b>	<b>S210086-01</b>								
Vinyl chloride	11/14/02		ND	ND	mg/kg dry			200	
o-Xylene	"		ND	ND	"			200	
m,p-Xylene	"		ND	ND	"			200	
Surrogate: 1,2-dichloroethane-d4	"	1.04		1.15	"	50-150	111		
Surrogate: Toluene-d8	"	1.04		1.14	"	50-150	110		
Surrogate: 4-bromofluorobenzene	"	1.04		1.47	"	50-150	141		
<b>Matrix Spike</b>									
<b>2110046-MSI</b>	<b>S210086-01</b>								
Benzene	11/14/02	1.04	ND	0.996	mg/kg dry	50-150	95.8		
Chlorobenzene	"	1.04	ND	1.04	"	50-150	100		
1,1-Dichloroethene	"	1.04	ND	0.727	"	50-150	69.9		
Toluene	"	1.04	ND	1.04	"	50-150	100		
Trichloroethene	"	1.04	ND	0.922	"	50-150	88.7		
Surrogate: 1,2-dichloroethane-d4	"	1.04		1.11	"	50-150	107		
Surrogate: Toluene-d8	"	1.04		1.14	"	50-150	110		
Surrogate: 4-bromofluorobenzene	"	1.04		1.39	"	50-150	134		

*QAC 12/3/02*



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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Polychlorinated Biphenyls by EPA Method 8082/Quality Control  
North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 2110027</b> <b>Date Prepared: 11/7/02</b> <b>Extraction Method: EPA 3580</b>										
<b>Blank</b> <b>2110027-BLK1</b>										
PCB-1016	11/11/02			ND	mg/kg	1.00				
PCB-1221	"			ND	"	1.00				
PCB-1232	"			ND	"	1.00				
PCB-1242	"			ND	"	1.00				
PCB-1248	"			ND	"	1.00				
PCB-1254	"			ND	"	1.00				
PCB-1260	"			ND	"	1.00				
Surrogate: TCX	"	0.400		0.438	"	44-136	110			
<b>LCS</b> <b>2110027-BS1</b>										
PCB-1016	11/11/02	10.0		9.11	mg/kg	50-150	91.1			
PCB-1260	"	10.0		11.6	"	49-140	116			
Surrogate: TCX	"	0.400		0.368	"	44-136	92.0			
<b>Matrix Spike</b> <b>2110027-MS1</b> <b>S211006-16</b>										
PCB-1016	11/11/02	10.0	ND	6.30	mg/kg	50-150	58.9			
PCB-1260	"	10.0	ND	1.68	"	47-155	16.8			Q-01
Surrogate: TCX	"	0.400		0.251	"	44-136	62.8			
<b>Matrix Spike Dup</b> <b>2110027-MSD1</b> <b>S211006-16</b>										
PCB-1016	11/11/02	10.0	ND	6.82	mg/kg	50-150	64.1	25	7.93	
PCB-1260	"	10.0	ND	2.34	"	47-155	23.4	48	32.8	Q-01
Surrogate: TCX	"	0.400		0.264	"	44-136	66.0			

*C/MC 12/3/02*

Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Polychlorinated Biphenyls by EPA Method 8082/Quality Control**  
**North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Units	Limit Recov. Limits	RPD %	RPD Limit	Notes*
<b>Batch: 2110033</b> <b>Date Prepared: 11/11/02</b> <b>Extraction Method: EPA 3550B</b>									
<b>Blank</b> <b>2110033-BLK1</b>									
PCB-1016	11/12/02			ND	ug/kg dry	50.0			
PCB-1221	"			ND	"	50.0			
PCB-1232	"			ND	"	50.0			
PCB-1242	"			ND	"	50.0			
PCB-1248	"			ND	"	50.0			
PCB-1254	"			ND	"	50.0			
PCB-1260	"			ND	"	50.0			
Surrogate: TCX	"	6.67		8.82	"	33.4-150	132		
Surrogate: Decachlorobiphenyl	"	6.67		10.6	"	40-150	159		S-05
<b>LCS</b> <b>2110033-BS1</b>									
PCB-1016	11/12/02	167		186	ug/kg dry	50-150	111		
PCB-1260	"	167		180	"	49-140	108		
Surrogate: TCX	"	6.67		7.07	"	33.4-150	106		
Surrogate: Decachlorobiphenyl	"	6.67		7.68	"	40-150	115		
<b>Duplicate</b> <b>2110033-DUP1 S210086-01</b>									
Surrogate: TCX	11/12/02	6.90		13.7	ug/kg dry	33.4-150	199		
Surrogate: Decachlorobiphenyl	"	6.90		7.23	"	40-150	105		
<b>Matrix Spike</b> <b>2110033-MS1 S210086-01</b>									
PCB-1016	11/12/02	173	ND	287	ug/kg dry	50-150	166		Q-01
PCB-1260	"	173	ND	179	"	47-155	103		
Surrogate: TCX	"	6.90		12.7	"	33.4-150	184		S-05
Surrogate: Decachlorobiphenyl	"	6.90		6.82	"	40-150	98.8		
<b>Matrix Spike Dup</b> <b>2110033-MSD1 S210086-01</b>									
PCB-1016	11/12/02	173	ND	300	ug/kg dry	50-150	173	25	4.43 Q-01
PCB-1260	"	173	ND	177	"	47-155	102	48	1.12
Surrogate: TCX	"	6.90		13.9	"	33.4-150	NR		S-05
Surrogate: Decachlorobiphenyl	"	6.90		7.43	"	40-150	180		

*This QC associated with sample not included in results or package.*

*gpc 12/3/02*



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Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Conventional Chemistry Parameters by APHA/EPA Methods/Quality Control**  
**North Creek Analytical - Spokane**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Batch: 2110054</b>			<b>Date Prepared: 11/14/02</b>		<b>Extraction Method: Wet Chem</b>					
<b>Duplicate</b>			<b>2110054-DUP1 S211006-04</b>							
pH	11/14/02		10.0	10.1	pH Units			20	0.995	

gxc  
12/3/02

Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Semivolatile Organic Compounds by EPA Method 8270C/Quality Control  
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	RPD %	RPD Limit	Notes*
<b>Batch: 2K08041</b>									
<b>Blank</b>									
<b>Date Prepared: 11/8/02</b>									
<b>2K08041-BLK1</b>									
<b>Extraction Method: EPA 3580A</b>									
Acenaphthene	11/11/02		ND		mg/kg	24.8			
Acenaphthylene	"		ND		"	24.8			
Aniline	"		ND		"	24.8			
Anthracene	"		ND		"	24.8			
Benzoic Acid	"		ND		"	75.0			
Benzo (a) anthracene	"		ND		"	24.8			
Benzo (b) fluoranthene	"		ND		"	24.8			
Benzo (k) fluoranthene	"		ND		"	24.8			
Benzo (ghi) perylene	"		ND		"	24.8			
Benzo (a) pyrene	"		ND		"	24.8			
Benzyl alcohol	"		ND		"	24.8			
Bis(2-chloroethoxy)methane	"		ND		"	24.8			
Bis(2-chloroethyl)ether	"		ND		"	24.8			
Bis(2-chloroisopropyl)ether	"		ND		"	24.8			
Bis(2-ethylhexyl)phthalate	"		ND		"	24.8			
4-Bromophenyl phenyl ether	"		ND		"	24.8			
Butyl benzyl phthalate	"		ND		"	24.8			
Carbazole	"		ND		"	24.8			
4-Chloroaniline	"		ND		"	37.5			
2-Chloronaphthalene	"		ND		"	24.8			
4-Chloro-3-methylphenol	"		ND		"	24.8			
2-Chlorophenol	"		ND		"	24.8			
4-Chlorophenyl phenyl ether	"		ND		"	24.8			
Chrysene	"		ND		"	24.8			
Dihenz (a,h) anthracene	"		ND		"	24.8			
Dibenzofuran	"		ND		"	24.8			
Di-n-butyl phthalate	"		ND		"	24.8			
1,3-Dichlorobenzene	"		ND		"	24.8			
1,4-Dichlorobenzene	"		ND		"	24.8			
1,2-Dichlorobenzene	"		ND		"	24.8			
3,3'-Dichlorobenzidine	"		ND		"	375			
2,4-Dichlorophenol	"		ND		"	24.8			
Diethyl phthalate	"		ND		"	24.8			
2,4-Dimethylphenol	"		ND		"	24.8			
Dimethyl phthalate	"		ND		"	24.8			
4,6-Dinitro-2-methylphenol	"		ND		"	37.5			
2,4-Dinitrophenol	"		ND		"	37.5			

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc 12/3/02*



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
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503.906.9200 fax 503.906.9210  
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711  
541.383.9310 fax 541.382.7588

Herrera	Project: None Provided	Sampled: 10/29/02 to 11/2/02
2200 6th Ave., #1100	Project Number: C00-01732-032	Received: 11/4/02
Seattle, WA 98121	Project Manager: Diana Phelan	Reported: 11/19/02 12:52

**Semivolatile Organic Compounds by EPA Method 8270C/Quality Control  
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Blank (continued)</b>	<b>2K08041-BLK1</b>									
2,4-Dinitrotoluene	11/11/02		ND	ND	mg/kg	37.5				
2,6-Dinitrotoluene	"		ND	ND	"	37.5				
Di-n-octyl phthalate	"		ND	ND	"	24.8				
Fluoranthene	"		ND	ND	"	24.8				
Fluorene	"		ND	ND	"	24.8				
Hexachlorobenzene	"		ND	ND	"	24.8				
Hexachlorobutadiene	"		ND	ND	"	24.8				
Hexachlorocyclopentadiene	"		ND	ND	"	37.5				
Hexachloroethane	"		ND	ND	"	24.8				
Indeno (1,2,3-cd) pyrene	"		ND	ND	"	24.8				
Isophorone	"		ND	ND	"	24.8				
2-Methylnaphthalene	"		ND	ND	"	24.8				
2-Methylphenol	"		ND	ND	"	24.8				
3 & 4-Methylphenol	"		ND	ND	"	24.8				
Naphthalene	"		ND	ND	"	24.8				
2-Nitroaniline	"		ND	ND	"	37.5				
3-Nitroaniline	"		ND	ND	"	37.5				
4-Nitroaniline	"		ND	ND	"	37.5				
Nitrobenzene	"		ND	ND	"	24.8				
2-Nitrophenol	"		ND	ND	"	24.8				
4-Nitrophenol	"		ND	ND	"	37.5				
N-Nitrosodiphenylamine	"		ND	ND	"	24.8				
N-Nitrosodi-n-propylamine	"		ND	ND	"	24.8				
Pentachlorophenol	"		ND	ND	"	37.5				
Phenanthrene	"		ND	ND	"	24.8				
Phenol	"		ND	ND	"	24.8				
Pyrene	"		ND	ND	"	24.8				
1,2,4-Trichlorobenzene	"		ND	ND	"	24.8				
2,4,5-Trichlorophenol	"		ND	ND	"	24.8				
2,4,6-Trichlorophenol	"		ND	ND	"	24.8				
Surrogate: 2-FP	"	125	134	"	"	47-119	107			
Surrogate: Phenol-d6	"	125	103	"	"	52-117	82.4			
Surrogate: 2,4,6-TBP	"	125	67.2	"	"	30-137	53.8			
Surrogate: Nitrobenzene-d5	"	125	117	"	"	44-127	93.6			
Surrogate: 2-FBP	"	125	112	"	"	53-121	89.6			
Surrogate: p-Terphenyl-d14	"	125	101	"	"	36-144	80.8			

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*Handwritten:* 12/31/02

Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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**Semivolatile Organic Compounds by EPA Method 8270C/Quality Control  
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery %	RPD Limit	RPD %	Notes*
<b>LCS 2K08041-BSI</b>									
Acenaphthene	11/11/02	100		107	mg/kg	51-120	107		
4-Chloro-3-methylphenol	"	100		90.6	"	58-117	90.6		
2-Chlorophenol	"	100		103	"	53-115	103		
1,4-Dichlorobenzene	"	100		97.2	"	54-120	97.2		
2,4-Dinitrotoluene	"	100		96.4	"	54-119	96.4		
4-Nitrophenol	"	100		98.4	"	39-127	98.4		
N-Nitrosodi-n-propylamine	"	100		90.4	"	49-120	90.4		
Pentachlorophenol	"	100		88.5	"	46-129	88.5		
Phenol	"	100		83.6	"	53-120	83.6		
Pyrene	"	100		94.2	"	58-126	94.2		
1,2,4-Trichlorobenzene	"	100		83.4	"	57-121	83.4		
Surrogate: 2-FP	"	125		124	"	47-119	99.2		
Surrogate: Phenol-d6	"	125		113	"	52-117	90.4		
Surrogate: 2,4,6-TBP	"	125		93.3	"	30-137	74.6		
Surrogate: Nitrobenzene-d5	"	125		112	"	44-127	89.6		
Surrogate: 2-FBP	"	125		120	"	53-121	96.0		
Surrogate: p-Terphenyl-d14	"	125		114	"	36-144	91.2		
<b>LCS Dup 2K08041-BSDI</b>									
Acenaphthene	11/11/02	100		105	mg/kg	51-120	105	24	1.89
4-Chloro-3-methylphenol	"	100		85.3	"	58-117	85.3	19	6.03
2-Chlorophenol	"	100		109	"	53-115	109	22	5.66
1,4-Dichlorobenzene	"	100		100	"	54-120	100	26	2.84
2,4-Dinitrotoluene	"	100		99.8	"	54-119	99.8	21	3.47
4-Nitrophenol	"	100		91.6	"	39-127	91.6	17	7.16
N-Nitrosodi-n-propylamine	"	100		80.6	"	49-120	80.6	23	11.5
Pentachlorophenol	"	100		83.2	"	46-129	83.2	17	6.17
Phenol	"	100		93.4	"	53-120	93.4	20	11.1
Pyrene	"	100		92.8	"	58-126	92.8	17	1.50
1,2,4-Trichlorobenzene	"	100		85.9	"	57-121	85.9	22	2.95
Surrogate: 2-FP	"	125		130	"	47-119	104		
Surrogate: Phenol-d6	"	125		112	"	52-117	89.6		
Surrogate: 2,4,6-TBP	"	125		91.4	"	30-137	73.1		
Surrogate: Nitrobenzene-d5	"	125		123	"	44-127	98.4		
Surrogate: 2-FBP	"	125		128	"	53-121	102		
Surrogate: p-Terphenyl-d14	"	125		112	"	36-144	89.6		

North Creek Analytical - Spokane

\*Refer to end of report for text of notes and definitions.

*gpc*  
*12/31/02*



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541.383.9310 fax 541.382.7588

Herrera 2200 6th Ave., #1100 Seattle, WA 98121	Project: None Provided Project Number: C00-01732-032 Project Manager: Diana Phelan	Sampled: 10/29/02 to 11/2/02 Received: 11/4/02 Reported: 11/19/02 12:52
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### Notes and Definitions

#	Note
Q-01	The spike recovery for this QC sample is outside of NCA established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration.
S-03	The surrogate recovery for this sample is outside of established control limits. Review of associated QC indicates the recovery for this surrogate does not represent an out-of-control condition.
S-05	The surrogate recovery for this sample is outside of NCA established control limits. The alternate surrogate has been used to validate the sample result.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

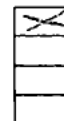
*Handwritten:* 12/3/02



## CHAIN OF CUSTODY REPORT

**Work Order #:**

CLIENT: <b>HERRERA/EPA</b>				INVOICE TO: <b>SAME</b>				TURNAROUND REQUEST in Business Days*												
REPORT TO: <b>DIANA PHELAN/HERRERA ENVIRONMENTAL</b>								Organic & Inorganic Analyses <input checked="" type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1												
ADDRESS: <b>2200 SIXTH AVE. #1100 SEATTLE, WA 98121</b>								STD.    Petroleum Hydrocarbon Analyses <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1												
PHONE: <b>206-441-9080</b> FAX: <b>206-441-9108</b>				P.O. NUMBER:				STD.    Please Specify <input checked="" type="checkbox"/> OTHER												
PROJECT NAME:				REQUESTED ANALYSIS																
PROJECT NUMBER: <b>C00-01732-032</b>																				
SAMPLED BY: <b>DB, DP, ERI</b>																				
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		VOCs	FLASH PT.	1010/1020	NWTPH-DX	PCBs	SVOCs	BTU	ASTM D2406-07	PH	PRIORITY	POLLUTANT	MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID		
1. PS-108		10-29-02 1410		X	X										O	1				
2. PS-98		10-30-02 1655		X	X										O	1				
3. PS-103		10-30-02 1705		X	X										O	1				
4. PS-29		10-31-02 0900									X				O	1				
5. TANK 1		10-31-02 1400					X								O	1				
6. TANK 2		10-31-02 1415					X								O	1				
7. PS-53		10-31-02 1645		X	X										O	1				
8. PS-124		11-1-02 0945		X	X										O	1				
9. PS-129		11-1-02 0950													O	1				
10. PS-3		11-1-02 1400			X			X	X						O	1				
11. PS-150		11-1-02 1415													O	1	HOLD			
12. B1		11-2-02 0955										X			O	1	HOLD SOME OF THE SAMPLE FOR FURTHER ANALYSIS ↓			
13. B2		11-2-02 1005										X			O	1				
14. B3		11-2-02 1015										X			O	1				
15. TRIP BLANK		11-1-02 —		X											W	2				
RELINQUISHED BY: <b>Diana M. Phelan</b>				DATE: <b>11-4-02</b>				RECEIVED BY: <b>[Signature]</b>				DATE: <b>11/12/02</b>								
PRINT NAME: <b>DIANA M. PHELAN</b> FIRM: <b>HERRERA</b>				TIME: <b>12:05</b>				PRINT NAME: <b>ECO CHEMICAL</b>				FIRM: <b>NRZ</b> TIME: <b>12:06</b>								
RELINQUISHED BY:				DATE:				RECEIVED BY:				DATE:								
PRINT NAME:				TIME:				PRINT NAME:				FIRM:								
ADDITIONAL REMARKS:																		TEMP:	PAGE	OF



# CHAIN OF CUSTODY REPORT

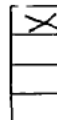
Work Order #:

CLIENT: <u>HERRERA / EPA</u>		INVOICE TO: <u>SAME</u>										<b>TURNAROUND REQUEST in Business Days*</b> Organic & Inorganic Analyses <div style="display: flex; justify-content: space-around;"> <span>10</span><span>7</span><span>5</span><span>4</span><span>3</span><span>2</span><span>1</span><span>&lt;1</span> </div> STD. Petroleum Hydrocarbon Analyses <div style="display: flex; justify-content: space-around;"> <span>5</span><span>4</span><span>3</span><span>2</span><span>1</span><span>&lt;1</span> </div> STD. <div style="border: 1px solid black; padding: 2px; display: inline-block;">OTHER</div> Please Specify _____ <small>*Turnaround Requests less than standard may incur Rush Charges.</small>							
REPORT TO: <u>DIANA PHELAN / HERRERA</u>		P.O. NUMBER:																	
ADDRESS: <u>2200 SIXTH AVE. #1100</u> <u>SEATTLE WA 98121</u>																			
PHONE: <u>206-441-9082</u> FAX: <u>206-441-9108</u>																			
PROJECT NAME:		REQUESTED ANALYSES																	
PROJECT NUMBER: <u>C00-01732-032</u>		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> <u>PUB</u> <u>8082</u> <u>WUTPH-</u> <u>DX</u> </div> <div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div> </div>																	
SAMPLED BY: <u>DB, DP, EKI</u>																			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME															MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
1. <u>T19, T20</u>	<u>10/29/02 1640</u>															<u>0</u>	<u>1</u>		
2. <u>T19</u>	<u>10/29/02 1645</u>															<u>0</u>	<u>1</u>		
3. <u>T40</u>	<u>10/30/02 1245</u>															<u>0</u>	<u>1</u>		
4. <u>CRUSHER COMP</u>	<u>10/30/02 1315</u>															<u>0</u>	<u>1</u>		
5. <u>T2</u>	<u>10/30/02 1445</u>															<u>0</u>	<u>1</u>		
6. <u>T7, T8, T9</u>	<u>10/30/02 1455</u>															<u>0</u>	<u>1</u>		
7. <u>T16</u>	<u>10/30/02 1525</u>															<u>0</u>	<u>1</u>		
8. <u>T1, T3</u>	<u>10/31/02 1115</u>															<u>0</u>	<u>1</u>		
9. <u>T21</u>	<u>10/31/02 1530</u>															<u>0</u>	<u>1</u>		
10. <u>T10 NORTH</u>	<u>10/31/02 1600</u>															<u>0</u>	<u>1</u>		
11. <u>T10 SOUTH</u>	<u>10/31/02 1630</u>															<u>0</u>	<u>1</u>		
12. <u>T42</u>	<u>11/1/02 0800</u>															<u>0</u>	<u>1</u>		
13. <u>T25</u>	<u>11/1/02 1600</u>															<u>0</u>	<u>1</u>		
14. <u>T48</u>	<u>11/2/02 0935</u>															<u>0</u>	<u>1</u>		
15. <u>SPILL</u>	<u>10/31/02 1700</u>	<u>X</u>	<u>X*</u>												<u>5</u>	<u>1</u>	<u>* WITH THE MINERAL OIL COMPONENT</u>		
RELINQUISHED BY: <u>Diana M. Phelan</u>		DATE: <u>11-4-02</u>		RECEIVED BY: <u>EC Carrioli</u>		DATE: <u>11/4/02</u>													
PRINT NAME: <u>DIANA M. PHELAN</u> FIRM: <u>HERRERA</u>		TIME: <u>12:05</u>		PRINT NAME: <u>EC Carrioli</u> FIRM: <u>NCA</u>		TIME: <u>1206</u>													
RELINQUISHED BY:		DATE:		RECEIVED BY:		DATE:													
PRINT NAME:		TIME:		PRINT NAME:		TIME:													
ADDITIONAL REM																TEM		PAGE 1 OF 2	



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(509) 924-9200 924-9290  
(503) 906-9200 FAX 906-9210  
(541) 383-9310 FAX 382-7588



## CHAIN OF CUSTODY REPORT

**Work Order #:**

CLIENT: HERRERA / EPA		INVOICE TO:		TURNAROUND REQUEST in Business Days*											
REPORT TO: DIANA PHELAN / HERRERA		SAME		Organic & Inorganic Analyses											
ADDRESS: 2200 5 <sup>TH</sup> AVE. #1100 SEATTLE WA 98121				STD. 10 7 5 4 3 2 1 <1											
PHONE: 206-441-9082		FAX: 206-441-9108		Petroleum Hydrocarbon Analyses											
PROJECT NAME:		P.O. NUMBER:		STD. 5 4 3 2 1 <1											
PROJECT NUMBER: COW-0732-032				OTHER Please Specify											
SAMPLED BY: DB, DP, ERI				*Turnaround Requests less than standard may incur Rush Charges.											
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		REQUESTED ANALYSES				MATRIX (W, S, O)		# OF CONT.		COMMENTS		NCA WO ID	
1. T26, T27, T28		10/29/02 1650		X				O		1					
2. T39		10-30-02 1220		X				O		1					
3. T4, T5, T6		10-30-02 1450		X				O		1					
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															
13.															
14.															
15.															
RELINQUISHED BY: Diana M. Phelan		DATE: 11-4-02		RECEIVED BY: EC Carfoglio		DATE: 11/04/02									
PRINT NAME: DIANA M. PHELAN		FIRM: HERRERA		TIME: 12:05		PRINT NAME: EC CARFOLIO		FIRM: NCA		TIME: 1206					
RELINQUISHED BY:		DATE:		RECEIVED BY:		DATE:									
PRINT NAME:		FIRM:		TIME:		PRINT NAME:		FIRM:		TIME:					
ADDITIONAL REMARKS:												TEMP:		PAGE 2 OF 2	

## Herrera Environmental Consultants, Inc.

### Memorandum

**To** Project File C00-01732-032  
**cc** Diana Phelan, Herrera Environmental Consultants  
**From** Gina Catarra and Rob Zisette, Herrera Environmental Consultants  
**Date** December 23, 2002  
**Subject** Petroleum Hydrocarbons Data Validation for Leadpoint, TDD #02-10-0006

This memorandum presents a review of petroleum hydrocarbon data collected for the Anderson-Calhoun Mine/Mill Site located in Leadpoint, Washington. Two product samples were collected on October 31, 2002. North Creek Analytical, Inc. of Spokane, Washington analyzed the samples for semivolatile petroleum hydrocarbons using the Washington Department of Ecology method NWTPH-Dx (Ecology 1997).

#### Sample Data Reviewed

Sample ID	Laboratory Sample ID	Date/Time Sampled
TANK 1	S211006-05	10/31/02; 14:00
TANK 2	S211006-06	10/31/02; 14:15

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in the *Sampling and Quality Assurance Plan (SQAP) Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington* (Herrera 2002), the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Guidance for Removal Activities) (USEPA 1990), the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (Functional Guidelines) (USEPA 2002), and the specified analytical method.

Quality control data submitted by the laboratory were reviewed; the laboratory did not submit raw laboratory data. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

## Data Validation

### Custody, Preservation, Holding Times, and Completeness—Acceptable

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported

samples were extracted and analyzed within the required holding time of 14 days from collection to extraction and 40 days from extraction to analysis. The laboratory data package is complete and contains test results for all samples listed on the COC.

#### **Initial Calibration—Not Reviewed**

The laboratory did not submit initial calibration summary forms.

#### **Continuing Calibration—Not Reviewed**

The laboratory did not submit continuing calibration verification (CCV) standard summary forms.

#### **Blank Analysis—Acceptable**

Method blanks were extracted and analyzed at the required frequency. The method blank did not contain reportable levels of diesel range organics (DRO) or residual range organics (RRO).

#### **Surrogate Analysis—Acceptable**

Two surrogate compounds were analyzed with each sample and blank in accordance with the specified method. All surrogate recovery criteria (i.e., percent recovery ranging from 50 to 150 percent) established by the specified analytical method were met for all target compounds.

#### **Matrix Spike Analysis—Acceptable**

The laboratory reported matrix spike results for sample TANK 1. The percent recovery value for diesel range hydrocarbons (140 percent) was within the control limits (50 to 150 percent) established by the laboratory.

#### **Duplicate Analysis—Acceptable**

Duplicate results were reported for sample TANK 1. Diesel range hydrocarbons and lube oil were not detected in either duplicate sample.

Field duplicate samples were not collected.

#### **Laboratory Control Sample Analysis—Acceptable**

A blank spike was extracted and analyzed with the samples. The percent recovery value for diesel range hydrocarbons (98 percent) was within the control limits (50 to 150 percent) established by the laboratory.

## **Laboratory Reporting Limits—Acceptable with Discussion**

Practical quantitation limits (PQLs) were specified in the SQAP as 0.400 to 2.0 mg/kg for NWTPH-Dx analyses. The laboratory reported PQLs of 1,200 mg/kg for diesel range hydrocarbons and 3,000 mg/kg for lube oil. The PQLs reported by the laboratory are reasonable for product samples.

## **Compound Identification—Acceptable**

Target compounds were not identified above the PQLs for samples TANK 1 and TANK 2.

## **Overall Assessment of Data Quality**

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable.

## **Laboratory Communications**

The laboratory was not contacted regarding the petroleum hydrocarbon analyses.

## **Definition of Data Qualifiers**

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (USEPA 1990).

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quantity control criteria were not met.
- U The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit or the adjusted sample detection limit.
- UJ The material was analyzed for, but was not detected. The reported detection limit is estimated because quality control criteria were not met.
- N Presumptive evidence of presence of material.
- NJ Presumptive evidence of the presence of the material at an estimated quantity.

- R The sample results are rejected (the presence or absence of the analyte cannot be verified) due to serious deficiencies control criteria. Any reported value is unusable. Resampling or reanalysis is necessary for verification.
- Z The chromatographic fingerprint does not resemble a petroleum product. Non-petroleum organics interferences may be present in the sample.

## References

Ecology. 1997. Analytical Methods for Petroleum Hydrocarbons. Publication 97-602, Washington Department of Ecology Toxics Cleanup Program and the Ecology Analytical Laboratory.

Herrera. 2002. Sampling and Quality Assurance Plan, Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington. Prepared for U. S. Environmental Protection Agency – Region 10 Superfund Technical Assessment & Response Team (START). Herrera Environmental Consultants, Inc. of Seattle, Washington. October 2002.

USEPA. 1990. Quality Assurance/Quality Control Guidance for Removal Activities. Sampling QA/QC Plan and Data Validation Procedures. Interim Final. U.S. Environmental Protection Agency, Environmental Response Team, Emergency Response Division, Office of Emergency and Remedial Response. Washington, D.C. EPA/540/G-90-004. April 1990.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency, Washington, D.C. EPA 540/R-99/008. October 1999.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, and III. Office of Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Washington, D.C. December 1996.

## Herrera Environmental Consultants, Inc.

### Memorandum

**To** Project File C00-01732-032  
**CC** Diana Phelan, Herrera Environmental Consultants  
**From** Gina Catarra and Rob Zisette, Herrera Environmental Consultants  
**Date** December 23, 2002  
**Subject** General Chemistry Parameters Data Validation for Leadpoint, TDD #02-10-0006

This memorandum presents a review of general chemistry data collected for the Anderson-Calhoun Mine/Mill Site located in Leadpoint, Washington. Fourteen product samples were collected between October 29 and November 2, 2002. North Creek Analytical, Inc. of Spokane, Washington analyzed one sample for heating value using ASTM method D240-76, six samples for flash point using EPA method 1010, two samples for sulfate using EPA method 300 and carbonate/bicarbonate using EPA method 310.1, and analyzed six samples for corrosivity using EPA method 150.1.

### Sample Data Reviewed

Sample ID	Laboratory Sample ID	Date/Time Sampled	Required Analyses
51	S211003-01	10/31/02; 09:00	Corrosivity
56	S211003-02	10/31/02; 13:00	Corrosivity
73	S211003-03	10/31/02; 13:10	Corrosivity
28	S211003-04	11/01/02; 09:00	Corrosivity
135	S211003-05	11/01/02; 09:25	Corrosivity
PS-108	S211006-01	10/29/02; 14:10	Flash point
PS-98	S211006-02	10/30/02; 16:55	Flash point
PS-103	S211006-03	10/30/02; 17:05	Flash point
PS-29	S211006-04	10/31/02; 09:00	Corrosivity
PS-53	S211006-07	10/31/02; 16:45	Flash point
PS-124	S211006-08	11/01/02; 09:45	Flash point
PS-3	S211006-10	11/01/02; 14:00	Flash point, heating value
B2	S211006-13	11/02/02; 10:05	Sulfate, carbonate/bicarbonate
B3	S211006-14	11/02/02; 10:15	Sulfate, carbonate/bicarbonate

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in the *Sampling and Quality Assurance Plan (SQAP) Anderson-Calhoun*



*Mine/Mill Removal Action, Leadpoint, Washington* (Herrera 2002), the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Guidance for Removal Activities) (USEPA 1990), and the specified analytical methods.

Quality control data submitted by the laboratory were reviewed; the laboratory did not submit raw laboratory data. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

## **Data Validation**

### **Custody, Preservation, Holding Times, and Completeness—Acceptable**

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported samples were analyzed within the required holding time of 14 days from collection for heating value, flash point, sulfate, and carbonate/bicarbonate. The reported samples were analyzed as soon as received for corrosivity. The laboratory data package is complete and contains test results for all samples listed on the COC.

### **Initial Calibration—Not Reviewed**

The laboratory did not submit initial calibration summary forms.

### **Continuing Calibration—Not Reviewed**

The laboratory did not submit continuing calibration verification (CCV) standard summary forms.

### **Blank Analysis—Acceptable**

Method blank analyses are not required for the heating value, flash point, or corrosivity methods. No field blanks were collected.

### **Matrix Spike Analysis—Acceptable**

Matrix spike analyses are not required for the reported methods.

### **Duplicate Analysis—Acceptable**

Duplicate analyses for corrosivity were reported for samples 56 and PS-29. The RPD values (1.7 and 1.0 percent, respectively) were within the laboratory control limits (less than 20 percent). Duplicate analyses were not reported for the other analytical methods.

Field duplicate samples were not collected.

### **Laboratory Control Sample Analysis—Acceptable**

Blank spike analyses are not required for the reported methods.

### **Laboratory Reporting Limits—Acceptable**

The laboratory reporting limits for the general chemistry methods were reasonable for the specified methods.

### **Overall Assessment of Data Quality**

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable.

## **Laboratory Communications**

The laboratory was not contacted regarding the general chemistry analyses.

## **Definition of Data Qualifiers**

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (USEPA 1990).

- J** The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quantity control criteria were not met.
- U** The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit or the adjusted sample detection limit.

- UJ** The material was analyzed for, but was not detected. The reported detection limit is estimated because quality control criteria were not met.
- N** Presumptive evidence of presence of material.
- NJ** Presumptive evidence of the presence of the material at an estimated quantity.
- R** The sample results are rejected (the presence or absence of the analyte cannot be verified) due to serious deficiencies control criteria. Any reported value is unusable. Resampling or reanalysis is necessary for verification.

## References

Herrera. 2002. Sampling and Quality Assurance Plan, Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington. Prepared for U. S. Environmental Protection Agency – Region 10 Superfund Technical Assessment & Response Team (START). Herrera Environmental Consultants, Inc. of Seattle, Washington. October 2002.

USEPA. 1990. Quality Assurance/Quality Control Guidance for Removal Activities. Sampling QA/QC Plan and Data Validation Procedures. Interim Final. U.S. Environmental Protection Agency, Environmental Response Team, Emergency Response Division, Office of Emergency and Remedial Response. Washington, D.C. EPA/540/G-90-004. April 1990.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, and III. Office of Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Washington, D.C. December 1996.

## *Herrera Environmental Consultants, Inc.*

### **Memorandum**

**To** Project File C00-01732-032  
**CC** Diana Phelan, Herrera Environmental Consultants  
**From** Gina Catarra and Rob Zisette, Herrera Environmental Consultants  
**Date** December 23, 2002  
**Subject** Metals Data Validation for Leadpoint, TDD #02-10-0006

This memorandum presents a review of metals data collected for the Anderson-Calhoun Mine/Mill Site located in Leadpoint, Washington. Three product samples were collected on November 2, 2002. North Creek Analytical, Inc. of Spokane, Washington analyzed the samples for metals using EPA Methods 6010B/7000 (USEPA 1992 and 1996).

#### **Sample Data Reviewed**

Sample ID	Laboratory Sample ID	Date/Time Sampled
B1	S211006-12	11/02/02; 09:55
B2	S211006-13	11/02/02; 10:05
B3	S211006-14	11/02/02; 10:15

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in the *Sampling and Quality Assurance Plan (SQAP) Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington* (Herrera 2002), the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Guidance for Removal Activities) (USEPA 1990), the *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (Functional Guidelines) (USEPA 2002), and the specified analytical methods.

Quality control data submitted by the laboratory were reviewed; the laboratory did not submit raw laboratory data. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

## Data Validation

### Custody, Preservation, Holding Times, and Completeness—Acceptable

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported samples were analyzed within the required holding time of six months (all metals, except mercury) and 28 days (mercury) from the date of collection. The laboratory data package is complete and contains test results for all samples listed on the COC.

### Initial Calibration—Not Reviewed

The laboratory did not submit initial calibration summary forms.

### Continuing Calibration—Not Reviewed

The laboratory did not submit initial calibration summary forms.

### Blank Analysis—Acceptable with Qualification

Method blanks were digested and analyzed at the required frequency. The method blanks do not contain reportable levels of metals with the exceptions noted below.

Calcium (2.32 ug/kg), magnesium (5.57 ug/kg), and sodium (16.1 ug/kg) were detected in the method blank analyzed on 11/18/02. In accordance with Guidance for Removal Activities, the associated samples with positive results less than five times the method blank concentrations for calcium, magnesium, and sodium have been qualified as undetected (U) as shown in the following table.

Sample ID	Analyte	Criteria	Qualifier
B2	Magnesium	Positive sample result less than 5x the reported method blank concentration	U

### ICP Interference Check Sample Analysis—Not Reviewed

The laboratory did not submit ICP interference check sample summary forms.

### Matrix Spike Analysis—Acceptable with Discussion

Matrix spike/matrix spike duplicate results were reported for batch QC samples. All percent recovery values were within the laboratory control limits (70 to 130 percent) with the exception noted below.

The percent recovery value for thallium in the matrix spike duplicate (136 percent) exceeded the laboratory control limits (70 to 130 percent). Data qualifiers are not recommended because the limits were exceeded by a small margin and all other quality control criteria were met.

#### **Duplicate Analysis—Acceptable with Discussion**

Duplicate and matrix spike/matrix spike duplicate results were reported for batch QC samples. All relative percent difference (RPD) values were within the laboratory control limit (less than 20 percent) with the exception noted below.

The RPD value for thallium (21 percent) exceeded the laboratory control limits (less than 20 percent). Data qualifiers are not recommended because the limits were exceeded by a small margin and all other quality control criteria were met.

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was performed for samples analyzed 11/18/02. All RPD values were within the laboratory control limit (less than 20 percent) with the exception noted below.

The RPD value for sodium (23 percent) exceeded the control limit (less than 20 percent) for the LCS/LCSD analyzed on 11/18/02. Data qualifiers are not recommended because the limits were exceeded by a small margin and all other quality control criteria were met.

Field duplicate samples were not collected.

#### **Laboratory Control Sample Analysis—Acceptable with Discussion**

Laboratory control samples (LCS) were digested and analyzed at the required frequency. All percent recovery values were within the laboratory control limits (60 to 149 percent) with the exception noted below.

The percent recovery value for magnesium (123 percent) in the LCS analyzed 11/18/02 exceeded the laboratory control limits (75 to 120 percent). No data were qualified because the percent recovery value for magnesium in the LCS duplicate (112 percent) was within the laboratory control limits.

#### **Laboratory Reporting Limits—Acceptable**

Practical quantitation limits (PQLs) were specified in the SQAP as 0.02 to 0.4 mg/kg for priority pollutant metals. The SQAP did not specify PQLs for the additional compounds (barium, calcium, iron, magnesium, potassium and sodium) analyzed. The laboratory reported PQLs of 0.013 to 10.6 mg/kg for the priority pollutant metals and PQLs of 0.355 to 22.3 mg/kg for the additional compounds. The PQLs reported by the laboratory are reasonable for product samples.

## Overall Assessment of Data Quality

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable with the exception of the rejected magnesium value for sample B2 due to a reported concentration of magnesium in the associated method blank.

## Laboratory Communications

The laboratory was not contacted regarding the priority pollutant metals analyses.

## Definition of Data Qualifiers

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (USEPA 1990).

- J** The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quantity control criteria were not met.
- U** The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit or the adjusted sample detection limit.
- UJ** The material was analyzed for, but was not detected. The reported detection limit is estimated because quality control criteria were not met.
- N** Presumptive evidence of presence of material.
- NJ** Presumptive evidence of the presence of the material at an estimated quantity.
- R** The sample results are rejected (the presence or absence of the analyte cannot be verified) due to serious deficiencies control criteria. Any reported value is unusable. Resampling or reanalysis is necessary for verification.

## References

Herrera. 2002. Sampling and Quality Assurance Plan, Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington. Prepared for U. S. Environmental Protection Agency – Region 10 Superfund Technical Assessment & Response Team (START). Herrera Environmental Consultants, Inc. of Seattle, Washington. October 2002.

USEPA. 1990. Quality Assurance/Quality Control Guidance for Removal Activities. Sampling QA/QC Plan and Data Validation Procedures. Interim Final. U.S. Environmental Protection Agency, Environmental Response Team, Emergency Response Division, Office of Emergency and Remedial Response. Washington, D.C. EPA/540/G-90-004. April 1990.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. U.S. Environmental Protection Agency, Washington, D.C. EPA 540/R-01-008. July 2002.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, and III. Office of Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Washington, D.C. December 1996.



## *Herrera Environmental Consultants, Inc.*

### **Memorandum**

*To* Project File C00-01732-032  
*cc* Diana Phelan, Herrera Environmental Consultants  
*From* Gina Catarra and Rob Zisette, Herrera Environmental Consultants  
*Date* December 23, 2002  
*Subject* PCB Data Validation for Leadpoint, TDD #02-10-0006

This memorandum presents a review of polychlorinated biphenyl (PCB) data collected for the Anderson-Calhoun Mine/Mill Site located in Leadpoint, Washington. Twenty-two product samples were collected on October 28, 29, 30, and 31, 2002 and November 1 and 2, 2002. North Creek Analytical, Inc. of Spokane, Washington analyzed the samples for polychlorinated biphenyls using U.S. EPA Method 8082 (USEPA 1996).

### **Sample Data Reviewed**

Sample ID	Laboratory Sample ID	Date/Time Sampled
T40	S211006-16	10/30/02; 12:45
Crusher-Comp	S211006-17	10/30/02; 13:15
T2	S211006-18	10/30/02; 14:45
T7,T8,T9	S211006-19	10/30/02; 14:55
T16	S211006-20	10/30/02; 15:25
T1,T3	S211006-21	10/30/02; 11:15
T10 North	S211006-22	10/31/02; 16:00
T10 South	S211006-23	10/31/02; 16:30
T42	S211006-24	11/01/02; 08:00
T25	S211006-25	11/01/02; 16:00
T48	S211006-26	11/02/02; 09:35
T26,T27,T28	S211006-27	10/29/02; 16:50
T39	S211006-28	10/30/02 12:20
T4,T5,T6	S211006-29	10/30/02; 14:50
T19,T20	S211007-01	10/29/02; 16:40
T19	S211007-02	10/29/02; 16:45
T21	S211007-03	10/31/02; 15:30
T22	S210071-01	10/28/02; 14:30
T13	S210071-02	10/28/02; 14:45
T14	S210071-03	10/28/02; 14:50
T15	S210071-04	10/28/02; 15:00
T10	S210071-05	10/28/02; 16:50

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in the *Sampling and Quality Assurance Plan (SQAP) Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington* (Herrera 2002), the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Guidance for Removal Activities) (USEPA 1990), the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (Functional Guidelines) (USEPA 2002), and the specified analytical method.

Quality control data submitted by the laboratory were reviewed; the laboratory did not submit raw laboratory data. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

## **Data Validation**

### **Custody, Preservation, Holding Times, and Completeness—Acceptable**

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported samples were extracted and analyzed within the required holding time of 14 from collection to extraction and 40 days from extraction to analysis. The laboratory data package is complete and contains test results for all samples listed on the COC.

### **Initial Calibration—Not Reviewed**

The laboratory did not submit initial calibration summary forms.

### **Continuing Calibration—Not Reviewed**

The laboratory did not submit continuing calibration verification (CCV) standard summary forms.

### **Blank Analysis—Acceptable**

Method blanks were extracted and analyzed at the required frequency. The method blanks did not contain reportable levels of polychlorinated biphenyls.

### **Surrogate Analysis—Acceptable**

One surrogate compound was analyzed with each sample and blank in accordance with the specified method. All surrogate recovery criteria (i.e., percent recovery value from 44 to 136 percent) established by the laboratory were met.

### **Matrix Spike Analysis—Acceptable with Discussion**

The laboratory reported matrix spike/matrix spike duplicate results for samples T40 and T22. The percent recovery values for PCB-1016 in the MS/MSD analysis of sample T40 (59 and 64 percent) were within the laboratory control limits (50 to 150 percent). Percent recovery values (16.8 and 23.4 percent) of PCB-1260 exceeded the control limits (47 to 155 percent) in the MS/MSD analysis of sample T40. PCB-1260 was not recovered in the MS/MSD analysis of sample T22 due to the high concentration of PCB-1260 in the sample. Data qualifiers are not recommended because all other quality control criteria were met.

### **Duplicate Analysis—Acceptable**

The laboratory reported matrix spike/matrix spike duplicate results for samples T40 and T22. The relative percent difference (RPD) values were within the control limits established by the laboratory.

Field duplicate samples were not collected.

### **Laboratory Control Sample Analysis—Acceptable**

Blank spikes were extracted and analyzed with the samples at the required frequency. The percent recovery values were within the control limits (ranging from 37 to 150 percent) established by the laboratory.

### **Laboratory Reporting Limits—Acceptable**

Practical quantitation limits (PQLs) were specified in the SQAP as 0.05 to 1.0 mg/kg for the PCB analyses. The laboratory reported acceptable PQLs of 1.0 mg/kg for each PCB.

### **Overall Assessment of Data Quality**

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable.

## **Laboratory Communications**

The laboratory was not contacted regarding the polychlorinated biphenyl analyses.

## **Definition of Data Qualifiers**

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (USEPA 1990).

- J** The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quantity control criteria were not met.
- U** The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit or the adjusted sample detection limit.
- UJ** The material was analyzed for, but was not detected. The reported detection limit is estimated because quality control criteria were not met.
- N** Presumptive evidence of presence of material.
- NJ** Presumptive evidence of the presence of the material at an estimated quantity.
- R** The sample results are rejected (the presence or absence of the analyte cannot be verified) due to serious deficiencies control criteria. Any reported value is unusable. Resampling or reanalysis is necessary for verification.
- Z** The chromatographic fingerprint does not resemble a petroleum product. Non-petroleum organics interferences may be present in the sample.

## References

Herrera. 2002. Sampling and Quality Assurance Plan, Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington. Prepared for U. S. Environmental Protection Agency – Region 10 Superfund Technical Assessment & Response Team (START). Herrera Environmental Consultants, Inc. of Seattle, Washington. October 2002.

USEPA. 1990. Quality Assurance/Quality Control Guidance for Removal Activities. Sampling QA/QC Plan and Data Validation Procedures. Interim Final. U.S. Environmental Protection Agency, Environmental Response Team, Emergency Response Division, Office of Emergency and Remedial Response. Washington, D.C. EPA/540/G-90-004. April 1990.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency, Washington, D.C. EPA 540/R-99/008. October 1999.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, and III. Office of Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Washington, D.C. December 1996.

## *Herrera Environmental Consultants, Inc.*

### **Memorandum**

**To** Project File C00-01732-032  
**CC** Diana Phelan, Herrera Environmental Consultants  
**From** Gina Catarra and Rob Zisette, Herrera Environmental Consultants  
**Date** December 23, 2002  
**Subject** Semivolatile Organic Compounds Data Validation for Leadpoint, TDD  
#02-10-0006

This memorandum presents a review of semivolatile organics data collected for the Anderson-Calhoun Mine/Mill Site located in Leadpoint, Washington. One product sample was collected on November 1, 2002. North Creek Analytical, Inc. of Spokane, Washington analyzed the sample for semivolatile organic compounds (SVOCs) using U.S. EPA Method 8270C Modified (USEPA 1996).

#### **Sample Data Reviewed**

Sample ID	Laboratory Sample ID	Date/Time Sampled
PS-3	S211006-10	11/01/02; 14:00

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in the *Sampling and Quality Assurance Plan (SQAP) Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington* (Herrera 2002), the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Guidance for Removal Activities) (USEPA 1990), the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (Functional Guidelines) (USEPA 2002), and the specified analytical method.

Quality control data submitted by the laboratory were reviewed; the laboratory did not submit raw laboratory data. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

### **Data Validation**

#### **Custody, Preservation, Holding Times, and Completeness—Acceptable**

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported

samples were extracted and analyzed within the required holding time of 14 days from collection to extraction and 40 days from extraction to analysis. The laboratory data package is complete and contains test results for all samples listed on the COC.

#### **Instrument Tuning and Mass Calibration—Not Reviewed**

The laboratory did not submit instrument tuning and mass calibration summary forms.

#### **Initial Calibration—Not Reviewed**

The laboratory did not submit initial calibration summary forms.

#### **Continuing Calibration—Not Reviewed**

The laboratory did not submit continuing calibration verification (CCV) standard summary forms.

#### **Internal Standard Evaluation—Not Reviewed**

The laboratory did not submit internal standard evaluation summary forms.

#### **Blank Analysis—Acceptable**

Method blanks were extracted and analyzed at the required frequency. The method blank did not contain reportable levels of the target compounds and no data have been qualified.

No field blanks were collected.

#### **Surrogate Analysis—Acceptable with Discussion**

Six surrogate compounds were analyzed with each sample and blank in accordance with the method. All surrogate recovery values were within the laboratory control limits with the exception noted below.

The percent recovery value for surrogate 2-FP in sample PS-3 (198 percent) exceeded the laboratory control limits (47 to 119 percent). No data were qualified because all other surrogate percent recovery values were within laboratory control limits.

#### **Matrix Spike Analysis—Acceptable**

Matrix spike analysis results were not reported for the semivolatile organics analysis.

### **Duplicate Analysis—Acceptable**

Duplicate analysis results were not reported for the semivolatile organics analysis.

Field duplicate samples were not collected.

### **Laboratory Control Sample Analysis—Acceptable**

Blank spike/ blank spike duplicate samples were extracted and analyzed at the require frequency. The percent recovery values for the blank spike and blank spike duplicate were within the laboratory control limits (ranging from 39 to 129 percent).

### **Laboratory Reporting Limits—Acceptable**

Practical quantitation limits (PQLs) were specified in the SQAP as 13 to 667 ug/kg. The specified PQLs are more appropriate for soil samples. The laboratory reported PQLs from 248 to 3,750 mg/kg for the semivolatile organic compounds. The PQLs reported by the laboratory are reasonable for product samples.

### **Tentatively Identified Compounds**

Tentatively identified compound reporting is not required for this project.

### **Overall Assessment of Data Quality**

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable.

## **Laboratory Communications**

The laboratory was not contacted regarding the semivolatile organic compounds analyses.

## **Definition of Data Qualifiers**

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (USEPA 1990).

- J** The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quantity control criteria were not met.

- U** The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit or the adjusted sample detection limit.
- UJ** The material was analyzed for, but was not detected. The reported detection limit is estimated because quality control criteria were not met.
- N** Presumptive evidence of presence of material.
- NJ** Presumptive evidence of the presence of the material at an estimated quantity.
- R** The sample results are rejected (the presence or absence of the analyte cannot be verified) due to serious deficiencies control criteria. Any reported value is unusable. Resampling or reanalysis is necessary for verification.

## References

Herrera. 2002. Sampling and Quality Assurance Plan, Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington. Prepared for U. S. Environmental Protection Agency – Region 10 Superfund Technical Assessment & Response Team (START). Herrera Environmental Consultants, Inc. of Seattle, Washington. October 2002.

USEPA. 1990. Quality Assurance/Quality Control Guidance for Removal Activities. Sampling QA/QC Plan and Data Validation Procedures. Interim Final. U.S. Environmental Protection Agency, Environmental Response Team, Emergency Response Division, Office of Emergency and Remedial Response. Washington, D.C. EPA/540/G-90-004. April 1990.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency, Washington, D.C. EPA 540/R-99/008. October 1999.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, and III. Office of Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Washington, D.C. December 1996.



## *Herrera Environmental Consultants, Inc.*

### **Memorandum**

**To** Project File C00-01732-032  
**cc** Diana Phelan, Herrera Environmental Consultants  
**From** Gina Catarra and Rob Zisette, Herrera Environmental Consultants  
**Date** December 23, 2002  
**Subject** Volatile Organic Compounds Data Validation for Leadpoint, TDD #02-10-0006

This memorandum presents a review of volatile organic data collected for the Anderson-Calhoun Mine/Mill Site located in Leadpoint, Washington. Five product samples were collected on October 29, 30, and 31, 2002 and November 1, 2002. North Creek Analytical, Inc. of Spokane, Washington analyzed the samples and one trip blank for volatile organic compounds (VOCs) using U.S. EPA Method 8260B Modified (USEPA 1996).

#### **Sample Data Reviewed**

Sample ID	Laboratory Sample ID	Date/Time Sampled
PS-108	S211006-01	10/29/02; 14:10
PS-98	S211006-02	10/30/02; 16:55
PS-103	S211006-03	10/30/02; 17:05
PS-53	S211006-07	10/31/02; 16:45
PS-124	S211006-08	11/01/02; 09:45
Trip Blank	S211006-15	11/01/02

The laboratory's performance was reviewed in accordance with quality control (QC) specifications outlined in the *Sampling and Quality Assurance Plan (SQAP) Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington* (Herrera 2002), the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Guidance for Removal Activities) (USEPA 1990), the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (Functional Guidelines) (USEPA 2002), and the specified analytical method.

Quality control data submitted by the laboratory were reviewed; the laboratory did not submit raw laboratory data. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by a summary of laboratory communications and definitions of data qualifiers.

## **Data Validation**

### **Custody, Preservation, Holding Times, and Completeness—Acceptable**

Sample custody was properly maintained from sample collection to receipt at the laboratory. The samples were properly preserved and were received intact at the laboratory. The reported samples were analyzed within the required holding time of 14 days from collection. The laboratory data package is complete and contains test results for all samples listed on the COC.

### **Instrument Tuning and Mass Calibration—Not Reviewed**

The laboratory did not submit instrument tuning and mass calibration summary forms.

### **Initial Calibration—Not Reviewed**

The laboratory did not submit initial calibration summary forms.

### **Continuing Calibration—Not Reviewed**

The laboratory did not submit continuing calibration verification (CCV) standard summary forms.

### **Internal Standard Evaluation—Not Reviewed**

The laboratory did not submit internal standard summary forms.

### **Blank Analysis—Acceptable**

Method blanks were extracted and analyzed at the required frequency. The method blanks did not contain reportable levels of the target compounds above the reporting limits and no data have been qualified. No field blanks were collected.

### **Surrogate Analysis—Acceptable with Discussion**

Three surrogate compounds were analyzed with each sample and blank in accordance with the method. All surrogate recovery values were within the laboratory control limits with the exceptions noted below.

Recovery of the surrogate 4-bromofluorobenzene was outside the laboratory control limit (50 to 150 percent) for the analysis of samples PS-108 (not recovered), PS-103 (168 percent), and the laboratory control sample analyzed on 11/14/02 (158 percent). Data qualifiers are not recommended because all other surrogates were within the control limits.

Surrogates were not recovered for the analysis of sample PS-124. No data were qualified because the surrogate failures resulted from the dilution necessary to quantify the high concentrations of target compounds in sample PS-124.

#### **Matrix Spike Analysis—Acceptable**

Matrix spike results were reported for batch QC samples. The percent recovery values were within the laboratory control limits (70 to 130 percent for aqueous samples, and 50 to 150 percent for solid samples) with the exception noted below.

The percent recovery value for trichloroethene (53 percent) exceeded the laboratory control limits (70 to 130 percent for aqueous samples). Data qualifiers are not recommended because the percent recovery value for trichloroethene was within the control limits in the analysis of the laboratory control sample.

#### **Duplicate Analysis—Acceptable**

Duplicate analysis results were reported for batch QC samples. The relative percent difference (RPD) values were within the control limits.

Field duplicate samples were not collected.

#### **Laboratory Control Sample Analysis—Acceptable**

Laboratory control samples were extracted and analyzed at the require frequency. The percent recovery values for each LCS (ranging from 80 to 120 percent) were within the laboratory control limits (ranging from 50 to 150 percent).

#### **Laboratory Reporting Limits—Acceptable**

Practical quantitation limits (PQLs) were specified in the SQAP as 250 to 500 ug/kg. The laboratory reported PQLs of 0.150 to 5.0 mg/kg for all samples except PS-124. The PQLs reported for sample PS-124 were 750 to 25,000 mg/kg due to the dilution necessary to quantify the high concentrations of target compounds. The PQLs reported by the laboratory are reasonable for product samples.

#### **Tentatively Identified Compounds**

Tentatively identified compound reporting is not required for this project.

#### **Overall Assessment of Data Quality**

The usability of the data is based on the guidance documents listed above. Upon consideration of the information presented here, the data are acceptable.

## Laboratory Communications

The laboratory was not contacted regarding the volatile organic compounds analyses.

## Definition of Data Qualifiers

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (USEPA 1990).

- J** The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quantity control criteria were not met.
- U** The material was analyzed for, but was not detected. The associated numerical value is the sample detection limit or the adjusted sample detection limit.
- UJ** The material was analyzed for, but was not detected. The reported detection limit is estimated because quality control criteria were not met.
- N** Presumptive evidence of presence of material.
- NJ** Presumptive evidence of the presence of the material at an estimated quantity.
- R** The sample results are rejected (the presence or absence of the analyte cannot be verified) due to serious deficiencies control criteria. Any reported value is unusable. Resampling or reanalysis is necessary for verification.

## References

Herrera. 2002. Sampling and Quality Assurance Plan, Anderson-Calhoun Mine/Mill Removal Action, Leadpoint, Washington. Prepared for U. S. Environmental Protection Agency – Region 10 Superfund Technical Assessment & Response Team (START). Herrera Environmental Consultants, Inc. of Seattle, Washington. October 2002.

USEPA. 1990. Quality Assurance/Quality Control Guidance for Removal Activities. Sampling QA/QC Plan and Data Validation Procedures. Interim Final. U.S. Environmental Protection Agency, Environmental Response Team, Emergency Response Division, Office of Emergency and Remedial Response. Washington, D.C. EPA/540/G-90-004. April 1990.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency, Washington, D.C. EPA 540/R-99/008. October 1999.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 Third Edition, Updates I, II, IIA, IIB, and III. Office of Solid Waste and Emergency Response. U.S. Environmental Protection Agency, Washington, D.C. December 1996.

## **APPENDIX F**

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### **FPXRF Screen Data Collection Sheets**

Project Name: (Anderson-Gilman) Landpoint

Date: Oct 29/02

TDD #

Field Personnel: PF 1/

XRF		Location		XRF Results (mg/kg)								Description and Notes: Station	Sample ID	Matrix	Sample Depth	Photo ID
Station ID	Time	Latitude	Longitude	arsenic	cadmium	chromium	lead	mercury	silver	zinc	other					
1												Self calibration				
2												Self calibration				
3				99.3	—	<350	1110	<20	—	304		Cal. Standard 2711				
4				<90	—	874	1030	<70	—	66.7K	727	4' S of S side, middle.				
												Ground surface				
5				<87	—	1130	650	<68	—	46.5K	<70	Same as #4, 10' S.				
												Ground surface				
6				<85	—	679	802	<68	—	58.6K	<670	Same as #4, 20' S.				
												Ground surface				
7				<67	—	1520	619	<45	—	24.6K	614	Same as #4, 30' S.				
												Ground surface				
8				<37	—	1520	154	<27	—	9950	<450	Same location as #4				
												~10" B.S. Gray material				
9				<39	—	2620	147	<28		11.3K	<490	Same location as #5,				
												~8" B.S. Gray material				
10				<73	—	1020	841	51	—	20.5K	<550	~5' E of E side, middle				
												Ground surface, underpass				
11				<100	—	913	140	<64	—	39.7K	<720	Same as #10, 15' E.				
												Ground surface				
12				<74	—	1190	687	<53	—	36.4	<580	Same as #10, 30' E.				
												Ground surface				
13				<120	—	3440 1270 <sup>PF</sup>	1270	136	—	124K	<930	Same as #10, 40' E.				
												Ground surface				
14				<140	—	2070	1670	<85	—	58.8K	<880	Same location as #13				
												6" B.S. brown material				
15				<160	—	3700	2980 <sup>PF</sup>	<87	—	60.8K	1150	~15' N of N side, middle				
												Ground surface				
16				153	—	3220	1700	<85	—	52.3K	<430	Same as #15, 25' N				

KA Cd not analyzed w/ XRF.

K = x 1000

**Project Name:**

Date: Oct 29 1972

TDD #

Field Personnel: PF

21

[illegible]



## APPENDIX G

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# Waste Disposal Manifest Tickets

## Manifest Detail Report

Shipped from: 10/30/2002 to: 11/7/2002

Status:

Generator: 44499

Manifest#: all

Waste Category: all

Printed on: 1/10/03

Page 1 of 4

Generator: U.S. EPA REGION 10/ANDERSON/

EPA ID: WAH000019489

1200 6TH AVE (ECL-116)

SEATTLE WA 98101

Manifest: 80220-02

Order #: 603431

Tsdf name: Burlington Environmental, Inc. - Tacoma

Shipped: 10/31/02

Received: 11/1/02

Tsdf EPA ID: WAD020257945

Value: \$4,905.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	310629-00	WATER WITH DIESEL	AFB01 WATB13	1	TT	4,500.00	G	\$4,905.00

Manifest: 80229-02

Order #: 603455

Tsdf name: Columbia Ridge Landfill -

Shipped: 11/1/02

Received: 11/1/02

Tsdf EPA ID: ORD987173457

Value: \$401.61

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	0563CW-00	WS #7 - CRUSHED DRUMS, SOIL, DEBRIS, METAL PLASTIC - WASHINGTON BIR01		1	DT	24,340.00	P	\$401.61

Manifest: 80230-02

Order #: 603455

Tsdf name: Columbia Ridge Landfill -

Shipped: 11/1/02

Received: 12/30/99

Tsdf EPA ID: ORD987173457

Value: \$330.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	0563CW-00	WS #7 - CRUSHED DRUMS, SOIL, DEBRIS, METAL PLASTIC - WASHINGTON BIR01		1	DT	2,940.00	P	\$330.00

Manifest: 80290

Order #: 603431

Tsdf name: Burlington Environmental, Inc. - Tacoma

Shipped: 10/31/02

Received: 11/1/02

Tsdf EPA ID: WAD020257945

Value: \$2,725.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	310451-00	WS 1.0: BULK FLAMMABLE LIQUIDS	AFB01	1	TT	2,500.00	G	\$2,400.00

Manifest: 80292

Order #: 603455

Tsdf name: BURLINGTON ENVIRONMENTAL, INC. - Kent

Shipped: 10/31/02

Received: 11/1/02

Tsdf EPA ID: WAD991281767

Value: \$1.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	310633-00	SOIL CONTAMINATED WITH <50PPM PCBS FROM TRANSFORMER	LF07 LFB07	1	CM	10.00	Y	\$2,000.00

## Manifest Detail Report

Shipped from: 10/30/2002 to: 11/7/2002

Status:

Generator: 44499

Manifest#: all

Waste Category: all

Printed on: 1/10/03

Page 2 of 4

Generator: U.S. EPA REGION 10/ANDERSON/  
1200 6TH AVE (ECL-116)  
SEATTLE, WA 98101

EPA ID: WAH000019489

Manifest: 80295-02      Order #: 603571      Tsd name: Burlington Environmental, Inc. - Tacoma  
Shipped: 11/1/02      Received: 11/12/02      Tsd EPA ID: WAD020257945

Value: \$4,845.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	310452-00	WS 2.0: CORROSIVE BASE	WAT02-1 WAT02-2 WAT02-3	51	DM	2,550.00	G	\$8,925.00
1B	310629-00	WATER WITH DIESEL	AFB01 WATB13	12	DM	600.00	G	\$2,700.00

Manifest: 80296-02      Order #: 603571      Tsd name: BURLINGTON ENVIRONMENTAL, INC. - Kent  
Shipped: 11/1/02      Received: 11/7/02      Tsd EPA ID: WAD991281767

Value: \$28,279.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	310455-00	WS 5.0 TRANSFORMERS WITH MINERAL OIL (NON PCB)	PCB07	20	CM	13,299.00	P	\$8,644.35
1B	310456-00	WS 6.0 MINERAL OIL IN TRANSFORMERS, <500 PPM	PCB03	3	DM	578.00	K	\$965.96
1C	310452-00	WS 2.0: CORROSIVE BASE	WAT02-1 WAT02-2 WAT02-3	9	DM	3,000.00	P	\$855.00
1D	310632-00	SULFURIC ACID AND HYDROCHLORIC ACID MIX	WAT01-1 WAT01-2	1	DM	50.00	G	\$100.00
2A	310519-00	EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB)	PCB07	0	CM	0.00		\$0.00
2B	310699-00	LEAD ACID BATTERIES	REC05	1	CW	80.00	P	\$75.00
2C	41060-45-00	PETROLEUM GREASE	STAB07 LF07	2	DM	1,000.00	P	\$350.00

Manifest: 80401-02      Order #: 603571      Tsd name: Burlington Environmental, Inc. - Tacoma  
Shipped: 11/2/02      Received: 11/20/02      Tsd EPA ID: WAD020257945

Value: \$1,330.00

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1A	310452-00	WS 2.0: CORROSIVE BASE	WAT02-1 WAT02-2 WAT02-3	14	DM	700.00	G	\$1,330.00
1B	310519-00	EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB)	PCB07	2	CM	0.00	P	\$0.00
1C	311056-00	PPE, VISQUEEN CONTAMINATED WITH SODIUM HYDROXIDE DEBRIS AND UECB09	UECB09	1	DM	0.00	P	\$0.00
1D	311056-00	PPE, VISQUEEN CONTAMINATED WITH SODIUM HYDROXIDE DEBRIS AND UECB09	UECB09	1	CM	0.00	P	\$0.00

Manifest: 80401K      Order #: 603571      Tsd name: BURLINGTON ENVIRONMENTAL, INC. - Kent  
Shipped: 11/2/02      Received: 11/27/02      Tsd EPA ID: WAD991281767

Value: \$0.90

Line	Profile	Waste Name	Waste Category	Cnt Qty	Cnt Typ	Quantity	UOM	Value
1B	310519-00	EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB)	PCB07	2	CM	3,236.00	P	\$1,456.20

## Manifest Detail Report

Shipped from: 10/30/2002 to: 11/7/2002

Status:

Generator: 44499

Manifest#: all

Waste Category: all

Printed on: 1/10/03

Page 3 of 4

Generator: U.S. EPA REGION 10/ANDERSON/

EPA ID: WAH000019489

1200 6TH AVE (ECL-116)

SEATTLE WA 98101

1C	311056-00	PPE, VISQUEEN CONTAMINATED WITH SODIUM HYDROXIDE DEBRIS AND U <del>EC</del> B09	1	CM	214.00	P	\$225.00
1D	311056-00	PPE, VISQUEEN CONTAMINATED WITH SODIUM HYDROXIDE DEBRIS AND U <del>EC</del> B09	1	DM	86.00	P	\$175.00

Total for Generator: 35,838.12

## Profile Listing by Generator

Started from: 10/20/2002 to: 11/10/2002

Status: all

Generator: 44499

Universal Waste Only? No

Printed on: 1/10/03

Page 1 of 2

Generator: U.S. EPA REGION 10/ANDERSON/  
1200 6TH AVE (ECL-116)  
SEATTLE, WA 98101

EPA ID: WAH000019489

Profile	Status	Starts/ Expires	Waste Name	DOT Name	DOT ID/Haz Cts/ Packing Group	EPA Codes	State Codes	Waste Category
310699-00	Active	10/31/02 10/30/03	LEAD ACID BATTERIES	BATTERIES, WET, FILLED WITH ACID	UN2794 8 III			REC05
310633-00	Pending	10/30/02 10/31/03	SOIL CONTAMINATED WITH <50PPM PCBS FROM TRANSFORMER	MATERIAL NOT REGULATED BY DOT (WASHINGTON STATE DANGEROUS WASTE ONLY, W001)			W001	LF07 LFB07
310632-00	Pending	10/30/02 10/31/03	SULFURIC ACID AND HYDROCHLORIC ACID MIX	WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	UN3264 8 II	D002		WAT01-1 WAT01-2
310629-00	Active	10/30/02 10/31/03	WATER WITH DIESEL & GREASY SLUDGE	WASTE FLAMMABLE LIQUIDS, N.O.S.	UN1993 3 III	D001 F003 F005		AFB01 WATB13 AF01 WAT13 AF04
310519-00	Active	10/29/02 10/31/03	EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB)	MATERIAL NOT REGULATED BY DOT				PCB07
310456-00	Active	10/28/02 10/31/03	WS 6.0 MINERAL OIL IN TRANSFORMERS, <500 PPM	POLYCHLORINATED BIPHENYLS, LIQUID	UN2315 9 II			PCB03
310455-00	Pending	10/28/02 10/31/03	WS 5.0 TRANSFORMERS WITH MINERAL OIL (NON PCB)	MATERIAL NOT REGULATED BY DOT (WASHINGTON STATE DANGEROUS WASTE ONLY, PCBS)			W001	PCB07
310454-00	Pending	10/28/02 10/31/03	WS 4.0 MINERAL OIL FROM TRANSFORMERS (NON PCB)	MATERIAL NOT REGULATED BY DOT (WASHINGTON STATE DANGEROUS WASTE ONLY, PCBS)			W001	AF01
310453-00	Pending	10/28/02 10/31/03	WS 3.0 METHANOL BENZENE SOLVENT	WASTE FLAMMABLE LIQUIDS, N.O.S.(ACETONE,TOLUENE)	UN1993 3 II	D001 F003 F005		AF01 AF02 AF03
310452-00	Active	10/28/02 10/31/03	WS 2.0: CORROSIVE BASE WITH SLUDGE	WASTE SODIUM HYDROXIDE SOLUTION	UN1824 8 II	D002		WAT02-1 WAT02-2 WAT02-3 STAB07
310451-00	Active	10/28/02 10/31/03	WS 1.0: BULK FLAMMABLE LIQUIDS	WASTE FLAMMABLE LIQUIDS, N.O.S.(DIESEL,PETROLEUM NAPHTHA)	UN1993 3 II	D001 F003 F005	W001	AFB01
0563CW-00	Active	10/30/02 10/31/03	WS #7 - CRUSHED DRUMS, SOIL, DEBRIS, METAL PLASTIC - WASHINGTON SPECIAL WASTE	MATERIAL NOT REGULATED BY DOT				DIR01

Total for Generator: 12

## Manifest Summary Report

Shipped from: 10/30/2002 to: 11/10/2002  
Generator: 44499

Printed on: 1/10/03

Page 1 of 2

Generator: U.S. EPA REGION 10/ANDERSON/  
1200 6TH AVE (ECL-116)  
SEATTLE, WA 98101

EPA ID: WAH000019489

<u>Manifest</u>	<u>Shipped</u>	<u>Order #</u>	<u>Facility Name</u>	<u>Location</u>	<u>Tsdf EPA ID</u>	<u>Received</u>
80401K	11/2/02	603571	BURLINGTON ENVIRONMENTAL, INC.	Kent	WAD991281767	11/27/02
80401-02	11/2/02	603571	Burlington Environmental, Inc.	Tacoma	WAD020257945	11/20/02
80220-02	10/31/02	603431	Burlington Environmental, Inc.	Tacoma	WAD020257945	11/1/02
80229-02	11/1/02	603455	Columbia Ridge Landfill		ORD987173457	11/1/02
80230-02	11/1/02	603455	Columbia Ridge Landfill		ORD987173457	
80290	10/31/02	603431	Burlington Environmental, Inc.	Tacoma	WAD020257945	11/1/02
80292	10/31/02	603455	BURLINGTON ENVIRONMENTAL, INC.	Kent	WAD991281767	11/1/02
80295-02	11/1/02	603571	Burlington Environmental, Inc.	Tacoma	WAD020257945	11/12/02
80296-02	11/1/02	603571	BURLINGTON ENVIRONMENTAL, INC.	Kent	WAD991281767	11/7/02

Total for Generator:

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>WAH000019489</b>		Manifest Document No. <b>80401K</b>		2. Page 1 of 1		Information in the shaded areas is not required by Federal law					
3. Generator's Name and Mailing Address <b>U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116)</b>						A. State Manifest Document Number							
4. Generator's Phone <b>SEATTLE WA 98101 (425)673-2900</b>						B. State Generator's ID							
5. Transporter 1 Company Name <b>Burlington Environmental, Inc.</b>				6. US EPA ID Number <b>WAR000001743</b>		C. State Transporter's ID							
7. Transporter 2 Company Name <b>Steve Forster Trucking</b>				8. US EPA ID Number <b>WAR000001743</b>		D. Transporter's Phone (253) 383-3044							
9. Designated Facility Name and Site Address <b>BURLINGTON ENVIRONMENTAL, INC. KENT 20245 7TH AVENUE SOUTH 1701 East Alexander KENT WASH WA 98032 98421</b>				10. US EPA ID Number <b>WAP000001743</b>		E. State Facility's ID							
						F. Facility's Phone (253) 872-8030							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <b>WASTE SODIUM HYDROXIDE SOLUTION 8 UN1824 PG11 (100) ER68(154)</b>						No. <b>14</b>		Type <b>DM</b>				G <b>0002</b>	
b. <b>MATERIAL NOT REGULATED BY DOT</b>						No. <b>2</b>		Type <b>CM</b>				P	
c. <b>NOT REG BY DOT TRASH</b>						No. <b>1</b>		Type <b>CM</b>					
d. <b>11</b>						No. <b>1</b>		Type <b>DM</b>					
J. Additional Descriptions for Materials Listed Above a) 310452-00 - WS 2.0: CORROSIVE BASE - WAT02-1 WAT02-2 WAT02-3 (11) b) 310519-00 - EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB) - PCB07 (12) c) 311054						K. Handling Codes for Wastes Listed Above a) b)							
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name <b>PAUL LIVEDMAN</b>						Signature <b>PAUL LIVEDMAN</b>				Month Day Year <b>11/12/02</b>			
17. Transporter 1 Acknowledgment of Receipt of Materials													
Printed/Typed Name <b>ROBERT HOLLEY</b>						Signature <b>Robert Holley</b>				Month Day Year <b>11/12/02</b>			
18. Transporter 2 Acknowledgment of Receipt of Materials													
Printed/Typed Name <b>TYE LEE</b>						Signature <b>Tye Lee</b>				Month Day Year <b>11/12/02</b>			
19. Discrepancy Indication Space <b>Designated Facility Changed to Tacoma per Kelly U. 11-12-02</b> <b>Lines 1B, 1C + 1D refer to an alternative facility:</b> <b>Burlington Environmental - Kent 20245 7TH AVENUE 13B=3234 13C=214</b> <b>Kent WA 98032 WAD991201767-253-872-8030 11/20/02 W. J. LEE 840W 12002</b>													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name <b>Wanda Graneland</b>						Signature <b>Wanda Graneland</b>				Month Day Year <b>11/20/02</b>			
ORIGINAL RETURN TO GENERATOR <b>Cathy Sweet</b> <b>11/27/02</b>													

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0038

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. WAH000019489		Manifest Document No. 80401		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.									
3. Generator's Name and Mailing Address U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116)						A. State Manifest Document Number											
4. Generator's Phone SEATTLE WA 98101 (425)673-2900						B. State Generator's ID											
5. Transporter 1 Company Name Burlington Environmental, Inc.				6. US EPA ID Number WAR000001743		C. State Transporter's ID											
7. Transporter 2 Company Name Steve Forlea Trucking				8. US EPA ID Number WAR00001263		D. Transporter's Phone (253)383-3044											
9. Designated Facility Name and Site Address BURLINGTON ENVIRONMENTAL, INC. KENT 20245 7TH AVENUE SOUTH 1701 East Alexander KENT WA 98032 98421				10. US EPA ID Number WAD991201767		E. State Transporter's ID											
						F. Transporter's Phone 860873-6230											
						G. State Facility's ID											
						H. Facility's Phone 427-7568 (253) 872-8030											
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.					
a. <input checked="" type="checkbox"/> WASTE SODIUM HYDROXIDE SOLUTION 8 UN1824 P611 (100) ER6#(154)						14 DM		700		G		D002					
b. MATERIAL NOT REGULATED BY DOT						2 CM				F							
c. NOT REG BY DOT TRASH						1 CM											
d.						1 DM											
J. Additional Descriptions for Materials Listed Above a) 310452-00 - WS 2.0: CORROSIVE BASE - WAT02-1 WAT02-2 WAT02-3 (11) b) 310519-00 - EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB) - PCB07 (12) c) 311054						K. Handling Codes for Wastes Listed Above a) b)											
15. Special Handling Instructions and Additional Information																	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.																	
Printed/Typed Name EAL LIVEDMAN						Signature EAL LIVEDMAN				Month Day Year 11 12 02							
17. Transporter 1 Acknowledgment of Receipt of Materials						Printed/Typed Name ROBERT HOLLEY				Signature Robert Holley				Month Day Year 11 12 02			
18. Transporter 2 Acknowledgment of Receipt of Materials						Printed/Typed Name Tye Lee				Signature Tye Lee				Month Day Year 11 12 02			
19. Discrepancy Indication Space						Designated Facility changed to Tacoma per Kelly U. 11-12-02 Burlington Environmental - Kent 20245 7TH AVES Kent, WA 98032 WAD991201767 - 253-872-8030 11/20/02 W. Juchel Cathy S. Juchel											
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						Printed/Typed Name Wanda Grondahl				Signature Wanda Grondahl				Month Day Year 11 20 02			



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>WAH000019489</b>		Manifest Document No. <b>80295</b>		2. Page 1 of 1		Information in the shaded area is not required by Federal law					
3. Generator's Name and Mailing Address <b>U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116) SEATTLE WA 98101 (425)673-2900</b>						A. State Manifest Document Number							
4. Generator's Phone <b>SEATTLE WA 98101 (425)673-2900</b>						B. State Generator's ID							
5. Transporter 1 Company Name <b>Burlington Environmental, Inc.</b>						C. State Transporter's ID							
6. US EPA ID Number <b>WAR000001743</b>						D. Transporter's Phone (253)383-3044							
7. Transporter 2 Company Name						E. State Transporter's ID							
8. US EPA ID Number						F. Transporter's Phone ( ) -							
9. Designated Facility Name and Site Address <b>Burlington Environmental, Inc. 1701 East Alexander Avenue Tacoma , WA 98421</b>						G. State Facility's ID							
10. US EPA ID Number <b>WAD020257945</b>						H. Facility's Phone <b>(253) 627-7568</b>							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <b>WASTE SODIUM HYDROXIDE SOLUTION 8 UN1824 PG1 (100) ERG8(154)</b>						No Type		Quantity		Unit Wt/Vol		Waste No.	
b. <b>WASTE FLAMMABLE LIQ. DS, N.O.S. 3 UN1993 PG III "TOXIC" ERG 2(128)</b>						No Type		Quantity		Unit Wt/Vol		Waste No.	
c.													
d.													
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above							
a) 310452-00 - WS 2.0: CORROSIVE BASE - WAT02-1 WAT02-2 WAT02-3 (2)						a)							
b) 310629-00 WATER WITH DIESEL - AF801 WAT03 (3)													
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name <b>EARL LIVERMAN</b>						Signature <i>[Signature]</i>				Month Day Year <b>11/11/02</b>			
17. Transporter 1 Acknowledgment of Receipt of Materials													
Printed/Typed Name <b>CHUCK NEWBORN</b>						Signature <i>[Signature]</i>				Month Day Year <b>11/10/02</b>			
18. Transporter 2 Acknowledgment of Receipt of Materials													
Printed/Typed Name						Signature				Month Day Year			
19. Discrepancy Indication Space <b>Change to total quantity ok'd per Kellie Vigil 11/15/02. Wanda Franklin</b>													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name <b>Jamarcia Gilmore</b>						Signature <i>[Signature]</i>				Month Day Year <b>11/13/02</b>			

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>WAH000019489</b>		Manifest Document No. <b>80296</b>		2. Page 1 of 2		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address <b>U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116)</b>						A. State Manifest Document Number							
4. Generator's Phone <b>SEATTLE WA 98101 (425)673-2900</b>						B. State Generator's ID							
5. Transporter 1 Company Name <b>Burlington Environmental, Inc.</b>				6. US EPA ID Number <b>WAH000001743</b>		C. State Transporter's ID							
7. Transporter 2 Company Name				8. US EPA ID Number		D. Transporter's Phone <b>(253)383-3044</b>							
9. Designated Facility Name and Site Address <b>BURLINGTON ENVIRONMENTAL, INC. KENT 20245 77TH AVENUE SOUTH KENT , WA 98032</b>				10. US EPA ID Number <b>WAD991281767</b>		E. State Transporter's ID							
						F. Transporter's Phone ( ) -							
						G. State Facility's ID							
						H. Facility's Phone <b>(253) 872-8030</b>							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit		15. Waste No.	
a. <b>MATERIAL NOT REGULATED BY DOT (WASHINGTON STATE DANGEROUS WASTE ONLY, PCBs)</b>						20 CM		38000		P		W001	
b. <b>POLYCHLORINATED BIPHENYLS, LIQUID 9 UN2315 PGII ERG#(171 )</b>						3 DM		578		K			
c. <b>WASTE SODIUM HYDROXIDE SOLUTION 8 UN1824 PGII (100) ERG#(154 )</b>						14 DM		6750		P		B002	
d. <b>WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. 8 UN3264 PGII (D002=100) ERG#(154 )</b>						1 DM		50		G		D002	
J. Additional Descriptions for Materials Listed Above a) 310455-00 - MS 5.0 TRANSFORMERS WITH MINERAL OIL (NON PCB) - PCB07 (8) b) 310456-00 - MS 6.0 MINERAL OIL IN TRANSFORMERS, <500 PPM - PCB03 (7) c) 310452-00 - MS 2.0: CORROSIVE BASE - WAT02-1 WAT02-2 WAT02-3 (10) d) 310632-00 - SULFURIC ACID AND HYDROCHLORIC ACID MIX - WAT01-1 WAT01-2 (4)						K. Handling Codes for Wastes Listed Above a) b) c) d) <b>RECEIVED NOV 25 2002 Environmental Cleanup Office</b>							
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name <b>EATULLVERMAN</b>						Signature <i>Eatullverman</i>						Month Day Year <b>11/11/02</b>	
17. Transporter 1 Acknowledgment of Receipt of Materials Printed/Typed Name <b>Jim Hobel</b>						Signature <i>Jim Hobel</i>						Month Day Year <b>11/07/02</b>	
18. Transporter 2 Acknowledgment of Receipt of Materials Printed/Typed Name						Signature						Month Day Year	
19. Discrepancy Indication Space <b>11-14-02 IFA Received only 20, line C Received 9, 2 dm moved to line 2C Center grease profile, all corrections authorized by Kellie Wright, PSC Sales Region. Cullman</b>													
20. Facility Owner or Operator: Certification of receipt of Hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name <b>Wanda Grondahl</b>						Signature <i>Wanda Grondahl</i>						Month Day Year <b>11/10/02</b>	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0039. Expires 9-30-92

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b> (Continuation Sheet)		21. Generator's US EPA ID No.		Manifest Document No.		22. Page		Information in the shaded areas is not required by Federal law.	
		WAH000019489		80296		2 of 2			
23. Generator's Name  U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116) SEATTLE WA 98101 (425)673-2900		24. Transporter Company Name		25. US EPA ID Number		L. State Manifest Document Number		M. State Generator's ID	
26. Transporter Company Name		27. US EPA ID Number		N. State Transporter's ID		O. Transporter's Phone ) -		P. State Transporter's ID	
28. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		29. Containers		30. Total Quantity		31. Unit Wt/Vol		R. Waste No.	
a. <del>MATERIAL NOT REGULATED BY DOT</del> ECL		2 CM		400		ECL			
b. Batteries, wet, filled with acid, 8 UN2794 PGIII ECL #154		1 CW		80		P			
c. Material not regulated by D.O.T. (Washington State Dangerous Waste only, toxic)		2 dm		1500		P		WTO2	
d.									
e.									
f.									
g.									
h.									
i.									
S. Additional Descriptions for Materials Listed Above						T. Handling Codes for Wastes Listed Above			
a) 310519-00 - EMPTY TRANSFORMERS LAST CONTAINED MINERAL OIL (NON PCB) - PCB07 (6)						a)			
b) 310699- Batteries, wet, lead acid									
c-41060-45 Grease CW									
32. Special Handling Instructions and Additional Information									
33. Transporter Acknowledgment of Receipt of Materials								Date	
Printed/Typed Name				Signature				Month Day Year	
34. Transporter Acknowledgment of Receipt of Materials								Date	
Printed/Typed Name				Signature				Month Day Year	
35. Discrepancy Indication Space									

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>WAH000019489</b>		Manifest Document No. <b>80220</b>		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address <b>U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116)</b>						A. State Manifest Document Number							
4. Generator's Phone <b>SEATTLE WA 98101 (425)673-2900</b>						B. State Generator's ID							
5. Transporter 1 Company Name <b>Burlington Environmental, Inc.</b>				6. US EPA ID Number <b>WAR000001743</b>		C. State Transporter's ID							
7. Transporter 2 Company Name				8. US EPA ID Number		D. Transporter's Phone <b>(253)383-3044</b>							
9. Designated Facility Name and Site Address <b>BURLINGTON ENVIRONMENTAL, INC. KENT 20245 77TH AVENUE SOUTH KENT , WA 98032</b>				10. US EPA ID Number <b>WAD991281767</b>		E. State Transporter's ID							
						F. Transporter's Phone ( ) -							
						G. State Facility's ID							
						H. Facility's Phone <b>(253) 872-8030</b>							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <b>WASTE FLAMMABLE LIQUIDS, N.O.S. (DIESEL, PETROLEUM NAPHTHA)</b> <b>UN1993 PGII ERG1(120)</b>						No Type <b>1 TT</b>		<b>4500</b>		<b>G</b>		<b>D001 F003 F005</b>	
b. <b>RECEIVED</b>													
c. <b>NOV 05 2002</b>													
d. <b>Environmental Cleanup Office</b>													
J. Additional Descriptions for Materials Listed Above a) <b>310451-00 - WS 1.0: BULK FLAMMABLE LIQUIDS - AFB01 (1) 310429.00</b> <b>water with diesel - AFB01, WATB13 (3)</b>						K. Handling Codes for Wastes Listed Above a)							
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name <b>EARL LIVENMAN</b>						Signature <i>[Signature]</i>						Month Day Year <b>10 31 02</b>	
17. Transporter 1 Acknowledgment of Receipt of Materials						18. Transporter 2 Acknowledgment of Receipt of Materials							
Printed/Typed Name <b>LARRY T. HELLWARTH</b>						Signature <i>[Signature]</i>						Month Day Year <b>10 31 02</b>	
Printed/Typed Name						Signature						Month Day Year	
19. Discrepancy Indication Space <b>Rerouted to Burlington Environmental 1701 E. Alexander AVE. * changes to PSH</b> <b>WAD020257945 253-627-7568, Tacoma, WA. 98421 + profile + oked</b> <b>Per Gary Greger, Dennis Jackson 11-1-02 Kellie V. Montez, Wad</b>													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name <b>ARROW FIRM</b>						Signature <i>[Signature]</i>						Month Day Year <b>11 1 02</b>	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form .

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <b>WAH000019489</b>		Manifest Document No. <b>80292</b>		2. Page 1 of 1		Informatic. is not required by law	
		3. Generator's Name and Mailing Address <b>U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116)</b>		A. State Manifest Document Number		B. State Generator's ID			
4. Generator's Phone <b>SEATTLE WA 98101 (425)673-2900</b>		5. Transporter 1 Company Name <b>Burlington Environmental, Inc.</b>		6. US EPA ID Number <b>WAR000001743</b>		C. State Transporter's ID		D. Transporter's Phone <b>(253)383-3044</b>	
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Phone ( ) -			
9. Designated Facility Name and Site Address <b>BURLINGTON ENVIRONMENTAL, INC. KENT 20245 77TH AVENUE SOUTH KENT , WA 98032</b>		10. US EPA ID Number <b>WAD991281767</b>		G. State Facility's ID		H. Facility's Phone <b>(253) 872-8030</b>			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total Quantity		14. Unit Wt/Vol	
				No Type					
a. <b>MATERIAL NOT REGULATED BY DOT (WASHINGTON STATE DANGEROUS WASTE ONLY, W001)</b>				1		CM		10 Y per W001	
b.									
c.									
d.									
J. Additional Descriptions for Materials Listed Above a) <b>310633-00 - SOIL CONTAMINATED WITH &lt;50PPM PCBS FROM TRANSFORMER - LF07 LFB07 (6)</b>				K. Handling Codes for Wastes Listed Above a)					
15. Special Handling Instructions and Additional Information				<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECEIVED NOV 06 2002 Environmental Cleanup Office </div>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name <b>EARL LIVERMAN</b>				Signature <i>[Signature]</i>				Month Day Year <b>11/3/02</b>	
17. Transporter 1 Acknowledgment of Receipt of Materials									
Printed/Typed Name <b>Chet Miller</b>				Signature <i>[Signature]</i>				Month Day Year <b>11/03/02</b>	
18. Transporter 2 Acknowledgment of Receipt of Materials									
Printed/Typed Name				Signature				Month Day Year	
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name <b>Collyer Surick</b>				Signature <i>[Signature]</i>				Month Day Year <b>11/10/02</b>	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB no. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. WAH0000019489		Manifest Document No. 80290		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address U.S. EPA REGION 10/ANDERSON/ CALHOUN SITE 1200 6TH AVE (ECL-116) SEATTLE WA 98101 (425)673-2900						A. State Manifest Document Number							
4. Generator's Phone						B. State Generator's ID							
5. Transporter 1 Company Name Burlington Environmental, Inc.						C. State Transporter's ID							
6. US EPA ID Number WAH0000001743						D. Transporter's Phone (253)383-3044							
7. Transporter 2 Company Name						E. State Transporter's ID							
8. US EPA ID Number						F. Transporter's Phone ( ) -							
9. Designated Facility Name and Site Address BURLINGTON ENVIRONMENTAL, INC. KENT 20245 77TH AVENUE SOUTH KENT, WA 98032						G. State Facility's ID							
10. US EPA ID Number 020257945 WAD991281767						H. Facility's Phone (253) 872-8030							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. <del>WASTE FLAMMABLE LIQUIDS, N.O.S. 3 UN1993 PGII "TOXIC" ERG2(128)</del> X Waste Flammable Liquids, N.O.S. (Diesel, Petroleum Naphtha) 3 UN1993 PGII ERG2(128)						No Type 1 TT		2500		G		D001 F003 F005	
b.													
c.													
d.													
J. Additional Descriptions for Materials Listed Above a) 310629-00 - WATER WITH DIESEL - AFB01 MATB13 (3) 310451-00 - WS 1.0: Bulk Flammable Liquids - AFB01 (1)						K. Handling Codes for Wastes Listed Above a)							
15. Special Handling Instructions and Additional Information													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name EARL LIVEDMAN						Signature EARL LIVEDMAN				Month Day Year 10 31 02			
17. Transporter 1 Acknowledgment of Receipt of Materials Printed/Typed Name Ron Dreyer						Signature Ron Dreyer				Month Day Year 10 31 01			
18. Transporter 2 Acknowledgment of Receipt of Materials Printed/Typed Name						Signature				Month Day Year			
19. Discrepancy Indication Space Re-routed to Tacoma 1701 East Alexander Ave O.K. per Kellie V. 11-02 Cother Smith Tacoma, WA 98421 X Change to PSN + proble okd per Kellie V. 11/01/02. Wapsh... 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name Wanda Grondahl						Signature Wanda Grondahl				Month Day Year 11 07 02			

## APPENDIX H

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# Photographic Documentation

**Anderson-Calhoun Mine/Mill Removal Action Site**  
**Still Photographs from 35 mm Camera**  
**Photographic Documentation**

Photo Number	Date	Time	Direction	By	Photo Description
1	10-28-02	08:50	NE	DB	Transformers T1, T2, and T3 located southwest of the mill building (background).
2	10-28-02	08:52	SE	DB	Metal plate label affixed to the side of transformer T1; the manufacturer of this transformer is Allis-Chalmer.
3	10-28-02	08:54	SW	DB	The blue label certifying that transformer T3 contains PCBs at concentrations less than 50 ppm. This blue label also was noted on transformers 1 and 2. The "100" label represents 100 kilovolt amps (KVA) power output rating for transformer T3.
4	10-28-02	09:05	E	DB	Transformers T4, T5, and T6 (foreground), and T7, T8, and T9 (background), located east of the former dry room concrete foundation pad.
5	10-28-02	09:07	NW	DB	Close-up view of transformers T7, T8, and T9
6	10-28-02	09:15	N	DB	Substation transformer T10
7	10-28-02	09:15	DN	DB	Wire coils (T11 and T12) located adjacent to transformer T10 in the substation area.
8	10-28-02	09:25	NE	DB	Large transformers T13, T14, and T15 (foreground), and T16 (background) located to the north-northeast of the mill building.
9	10-28-02	09:28	N	DB	Metal plate label and 200 KVA label on transformer T15 (the manufacturer is Kulman Electric Company).
10	10-28-02	09:50	NW	DB	Transformer T17 located south of the former equipment storage building pad (also the transformer staging area during the removal action).
11	10-28-02	11:20	ESE	DB	Drums 1, 2, and 3 located southeast of the mill building.
12	10-28-02	11:30	N	DB	Drums 4, 5, and 6 (foreground), with the 500-gallon empty underground storage tank (center background) and mill building (background).
13	10-28-02	11:34	N	DB	Drum 7 (foreground).
14	10-28-02	11:34	DN	DB	Close-up view of sludge (likely lubricating grease) inside drum 7.
15	10-28-02	11:54	E	DB	Drums 8 and 9 located in vicinity of the debris pile southeast of the mill building.



*Removal Action—Anderson-Calhoun Mine/Mill Site*

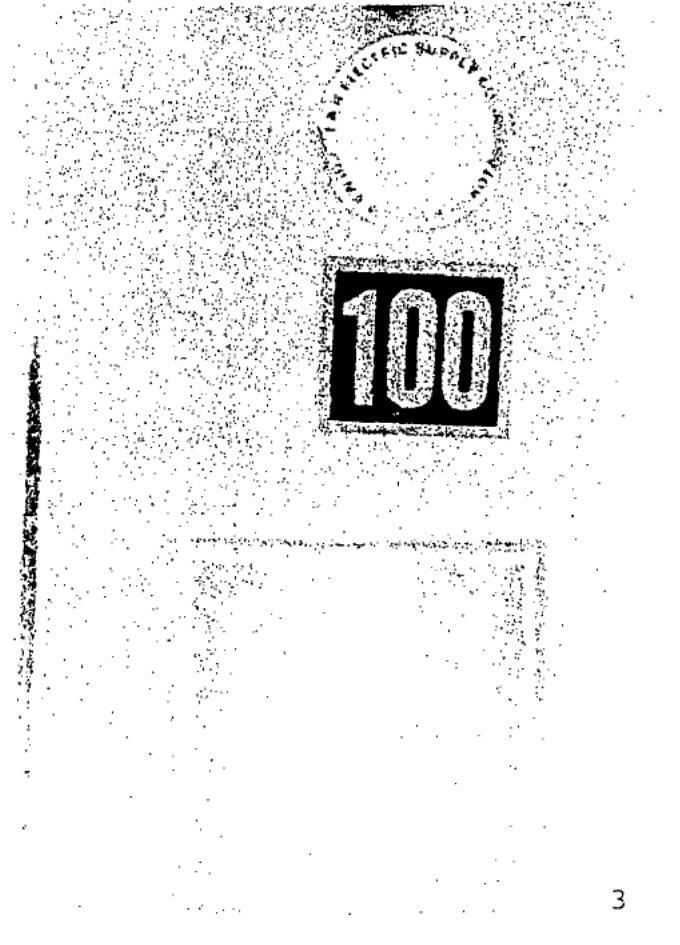
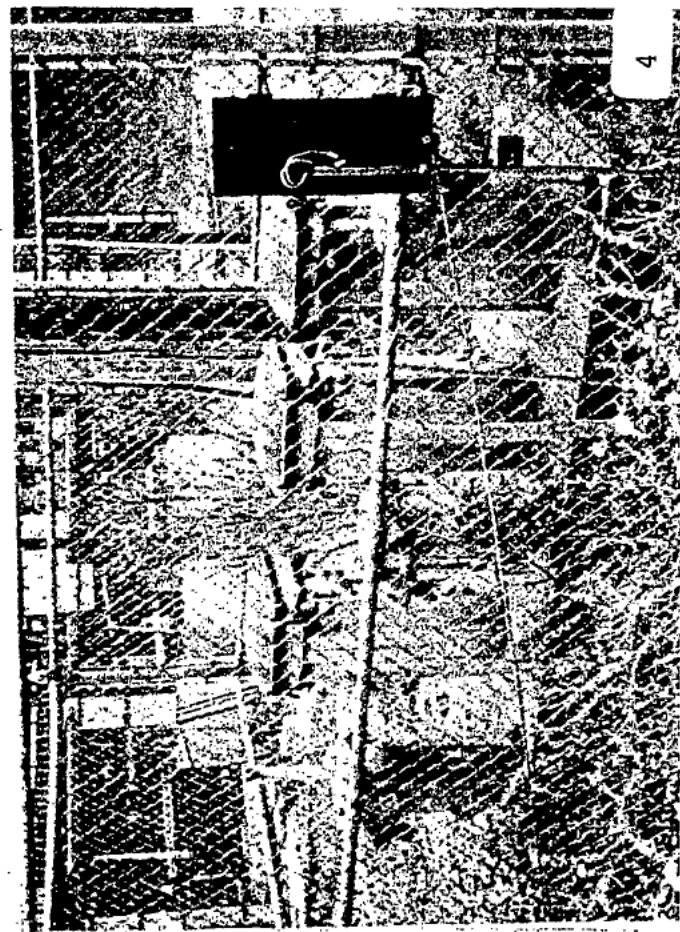
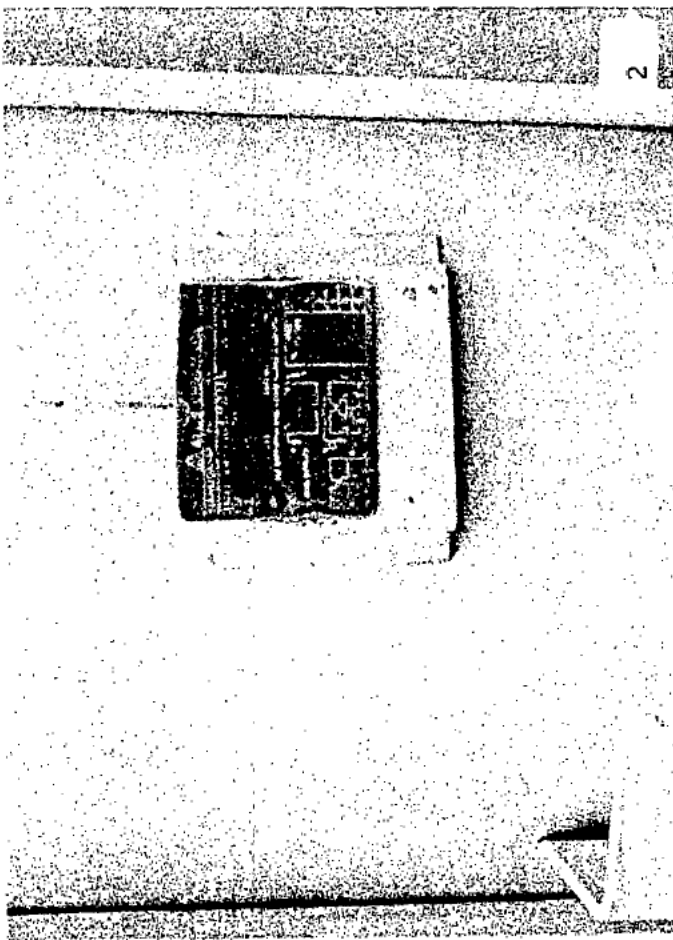
Photo Number	Date	Time	Direction	By	Photo Description
16	10-28-02	11:54	SE	DB	Drums 10 and 11 located adjacent of the debris pile (left side of photo).
17	10-28-02	12:25	E	DB	Drums 12, 13, 14, 20, and 21 located on the wooden shed platform (view of the north end of the platform).
18	10-28-02	12:25	SE	DB	Drums 14 through 20 located on the north end of the wooden shed platform.
19	10-28-02	12:30	W	DB	Drums 22 and 23 located on the south end of the wooden shed platform.
20	10-28-02	12:50	SW	DB	Drums 24 and 25 located on the drum storage rack, with the mill building in the background.
21	10-28-02	13:20	N	DB	Drums 26 and 27 located in the lower hopper area.
22	10-28-02	13:25	NW	DB	Drums 28 through 37 located on the former maintenance repair shop concrete pad.
23	10-28-02	16:10	N	DB	Transformer T21 landed on hill slope between two small trees; photo taken soon after crane truck toppled.
24	10-29-02	08:30	SW	DB	Transformer T20 after removal from the pole-mounted platform in the background (T19 is still on the platform).
25	10-29-02	08:31	SW	DB	START pointing to the spilled oil from transformer T20.
26	10-29-02	08:32	DN	DB	Close-up view of spilled oil on rock and soil from transformer T20.
27	10-29-02	08:55	DN	DB	Delineation marks of spilled oil on hill slope from transformer T20.
28	10-29-02	10:12	S	DB	Draining the oil by gravity through a garden hose from transformer T19 into a 55-gallon drum (not shown).
29	10-29-02	10:12	E	DB	Draining the oil from transformer T19. Transformers T20 and T21 in the background. Activities taken place on the upper hopper area.
30	10-29-02	10:45	E	DB	Windborne dust from tailing piles in vicinity of the evaporation/settlement ponds.
31	10-29-02	10:53	NE	DB	Moving transformer T21 from the upper hopper area to the transformer staging area.
32	10-29-02	12:55	NW	LJL	XRF site #5
33	10-29-02	12:56	W	LJL	XRF site #4 (transformer T18 and drums 28 through 37 shown in the background, upper left hand of photo).
34	10-29-02	12:57	N	LJL	XRF sites #4, 5, 6, and 7
35	10-29-02	13:50	S	DP	Pole-mounted platform with transformer T19 and a former electrical cable (foreground).

Photo Number	Date	Time	Direction	By	Photo Description
36	10-29-02	15:10	DN	DP	Drum 120 located inside the southwest corner of the mill building
37	10-29-02	15:20	E	DP	Drum 121.
38	10-29-02	08:00	NE	DB	Transformer T23 being lifted from the hillside (transformer was attached to a power pole).
39	10-30-02	15:15	NE	DP	START sampling transformer T16.
40	10-31-02	08:05	W	DB	Soil excavated from transformer T21 release site.
41	10-31-02	08:06	DN	DB	Close-up view of oil-contaminated soil excavated from T21 release site.
42	10-31-02	08:07	SE	DB	Excavated area of transformer T21 release site (trees where transformer fell into were removed).
43	10-31-02	08:25	S	DB	Dump truck box lined with visqueen, being loaded with crushed drums from empty stockpile south of the mill building. Rock powder waste pile shown in the background, right side of photo.
44	10-31-02	11:40	DN	DB	Visqueen-lined roll-off container prepared for excavated soil from transformer spills.
45	10-31-02	12:00	NW	DB	End of loading operation at location where oil-stained soil was stockpiled.
46	11-1-02	09:00	N	LJL	START sampling drum 28.
47	11-1-02	11:00	W	DB	Utility pole located in water-filled lower mine pit.
48	11-1-02	13:40	E	DB	Transformer carcasses (drained of oil) being staged for loading into DOT secondary containment boxes (T26 being loaded) and then loaded into the semi-truck trailer for transportation offsite and disposal.
49	11-1-02	14:30	E	DB	Drums inside mill building being overpacked for removal.
50	11-1-02	15:45	SW	DB	Transformer carcasses being packed for loading and removal.
51	11-2-02	10:30	W	LJL	ERRS representative conducts field hazard categorization analysis on bottles collected from the assay lab dump site while START representative records phase description and hazard categorization results.
52	11-2-02	10:00	SW	DP	Debris pile located southeast of the mill building adjacent to the North Fork Deep Creek and wetland complex. White waste pile on a wooden pallet shown in lower right corner of the photo is where sample B1 was collected.

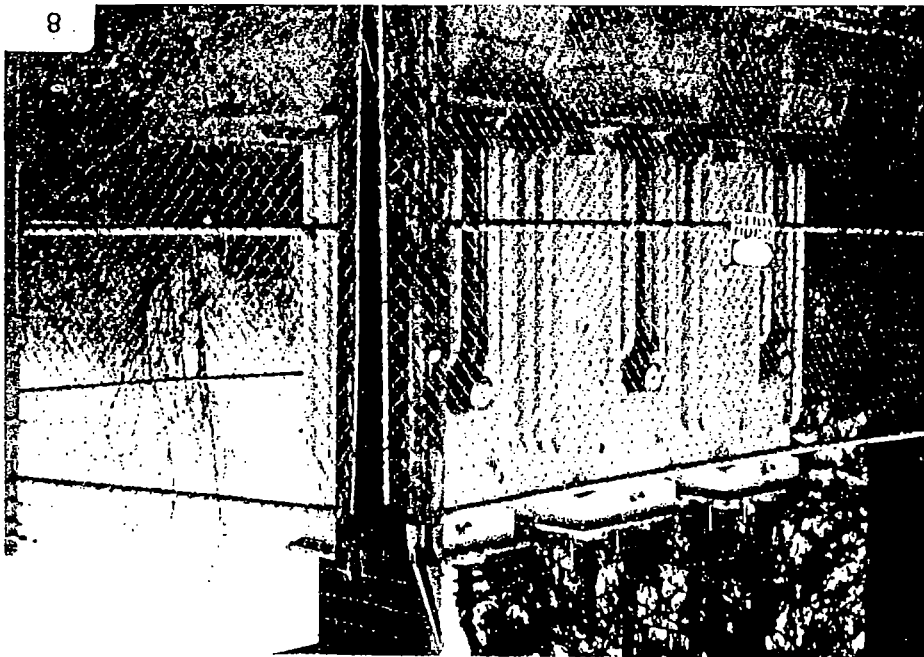
*Removal Action—Anderson-Calhoun Mine/Mill Site*

Photo Number	Date	Time	Direction	By	Photo Description
53	11-2-02	10:10	S	DP	Large white crystalline waste pile located on the wooden shed platform. Sample B2 was collected from the center portion of this pile.
54	11-2-02	10:15	N	LJL	START collecting sample B3 from white crystalline waste pile located south of the hopper area (background).
55	11-2-02	11:30	E	DB	Bottles and jars of unknown liquids and solids collected from the assay lab dump site staged on the transformer staging pad after hazard categorization analysis was completed. Bottles 1 through 38 are represented from left to right in the photograph.
56	11-2-02	11:30	W	DB	Bottles 1 through 38 (represented from right to left) collected from the assay lab dump site.
57	11-2-02	12:10	SE	DB	Inside the northeast corner of the mill building after the removal of drums, chemical spills, and other debris.
58	11-2-02	12:11	SE	DB	Inside the northeast corner of the mill building after the removal of drums, chemical spills, and other debris.
59	11-2-02	12:15	NW	DB	Hillside where T21 spilled, after cleanup operations.
60	11-2-02	12:20	NE	DB	Hillside where T21 spilled, after cleanup operations.
61	11-2-02	12:25	SE	DB	Panoramic view of the wooden shed platform (foreground), the transformer staging area (center right), and the mill building (background) after completion of the removal action.
62	11-2-02	12:30	E	DB	The area southeast of the mill building where 76 empty drums, the empty 500-gallon UST, and drums 1 through 7 were located after completion of the removal action.
63 – 66	11-2-02	13:30	SW to W	DP	Panoramic view of the mine/mill site from the northeast corner of the evaporation/settlement pond area next to the Calhoun Mine Road and gate.

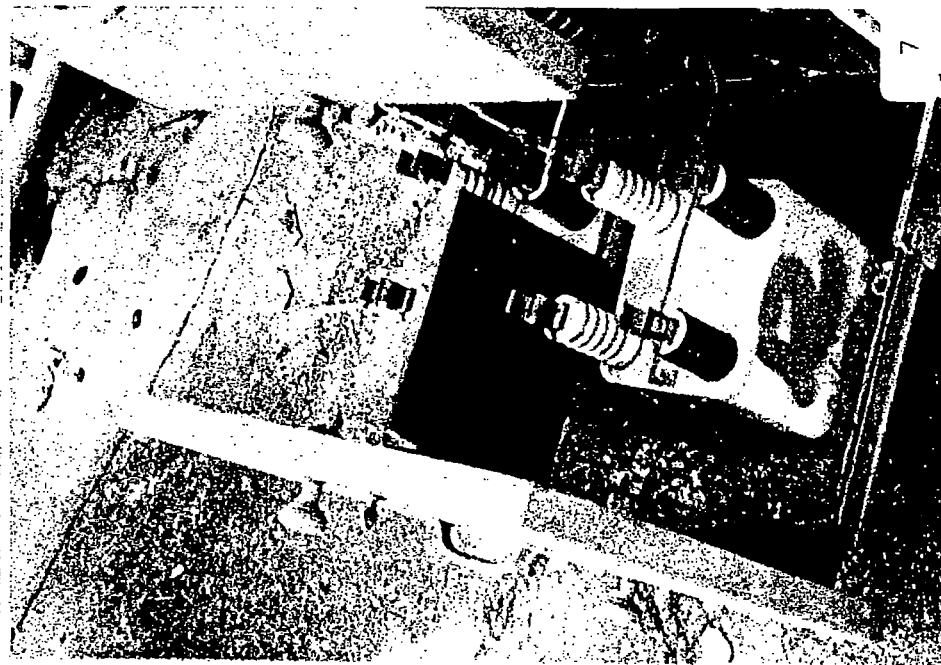
N – North  
 S – South  
 E – East  
 W – West  
 DN – Down  
 DB – Dave Brown  
 DP – Diana Phelan  
 LJL – Laura Jones-Lofink  
 XRF – x-ray fluorescence  
 ERRS – Emergency and Rapid Response Service contractor  
 START – Superfund Technical Assessment and Response Team contractor



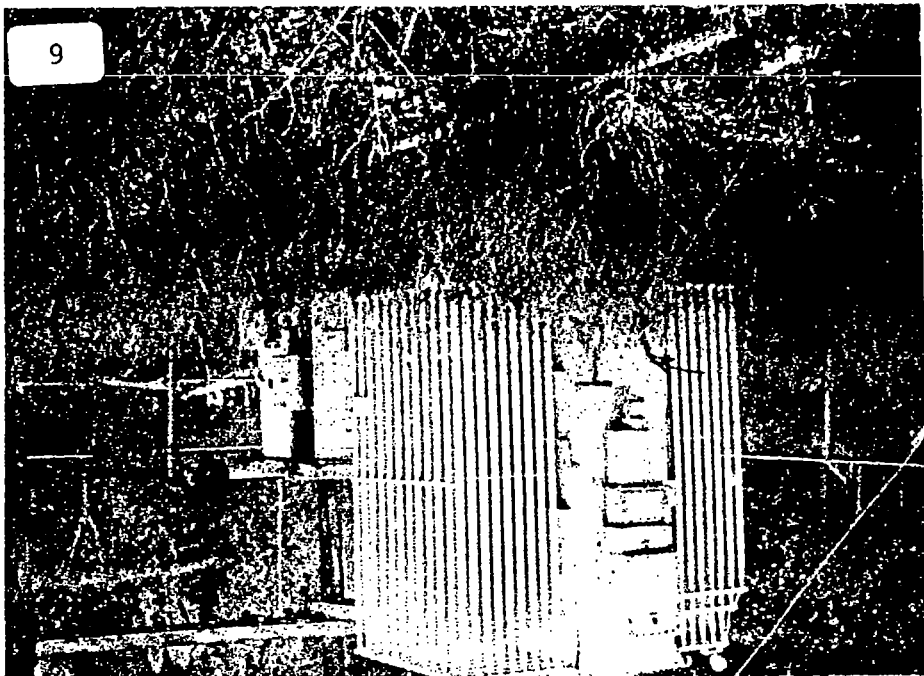
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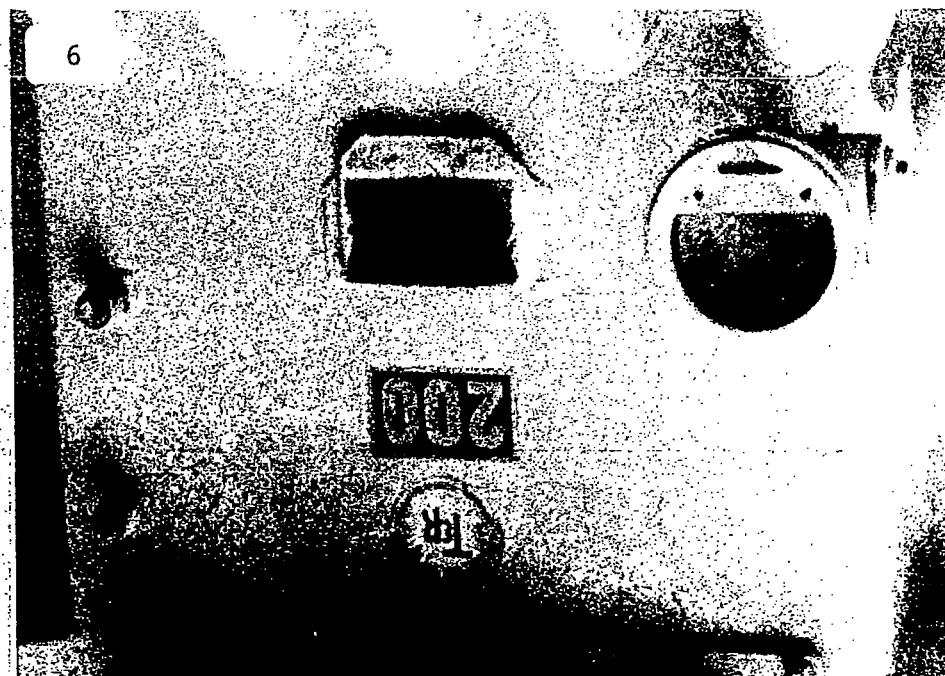
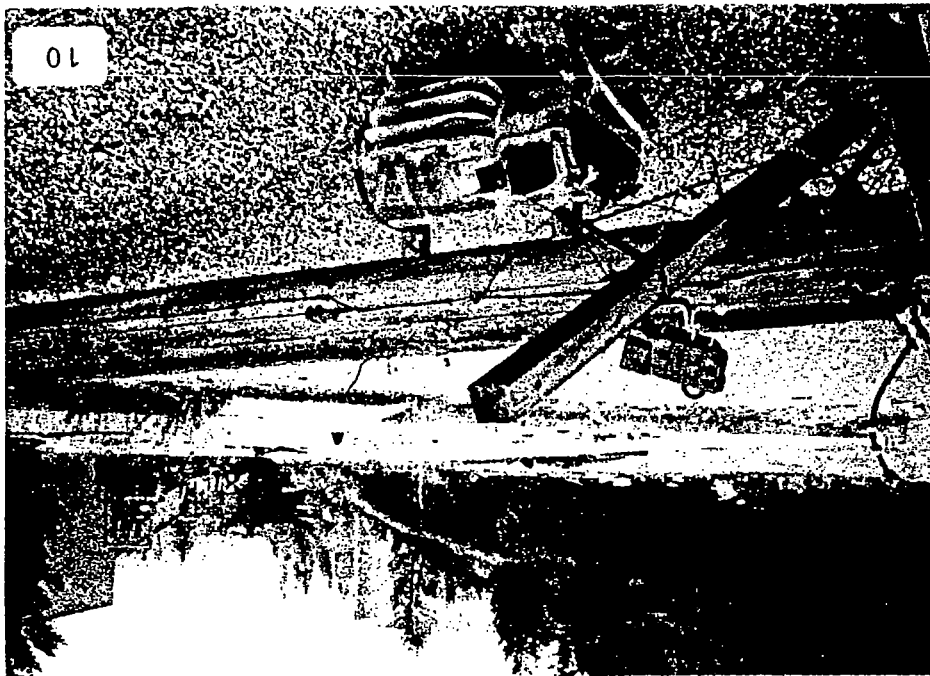
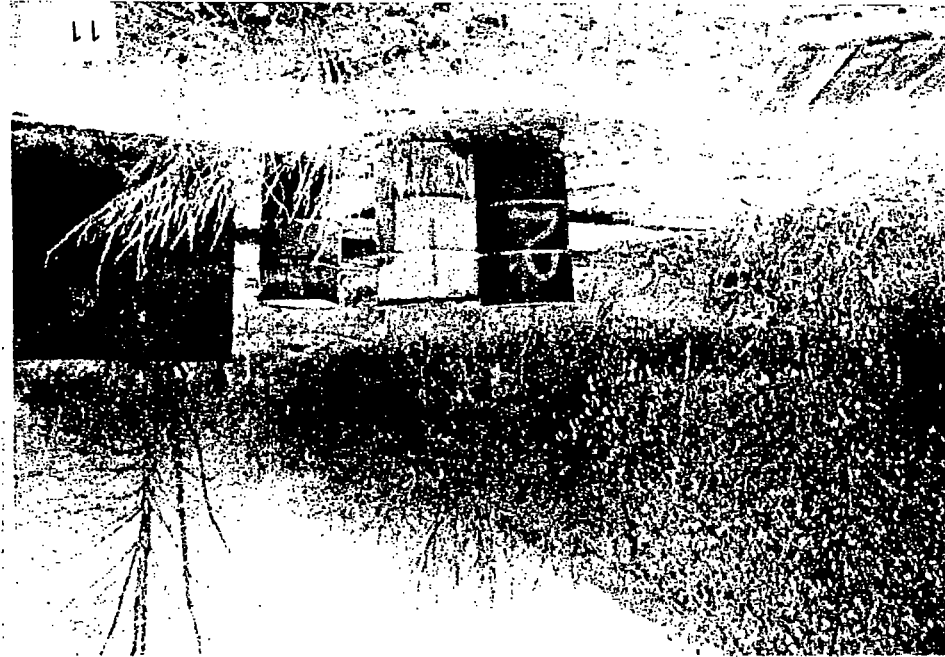
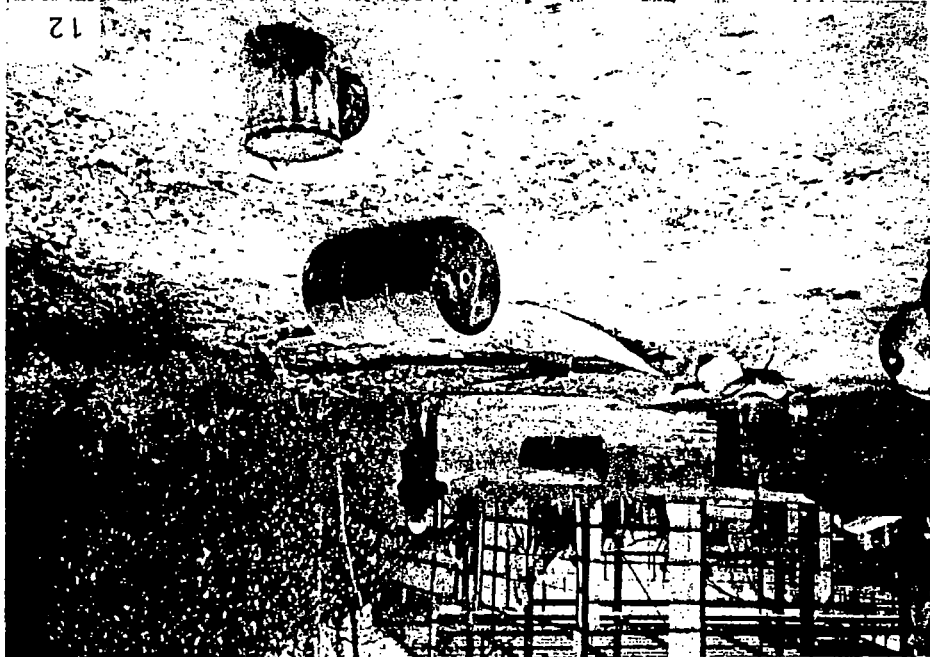


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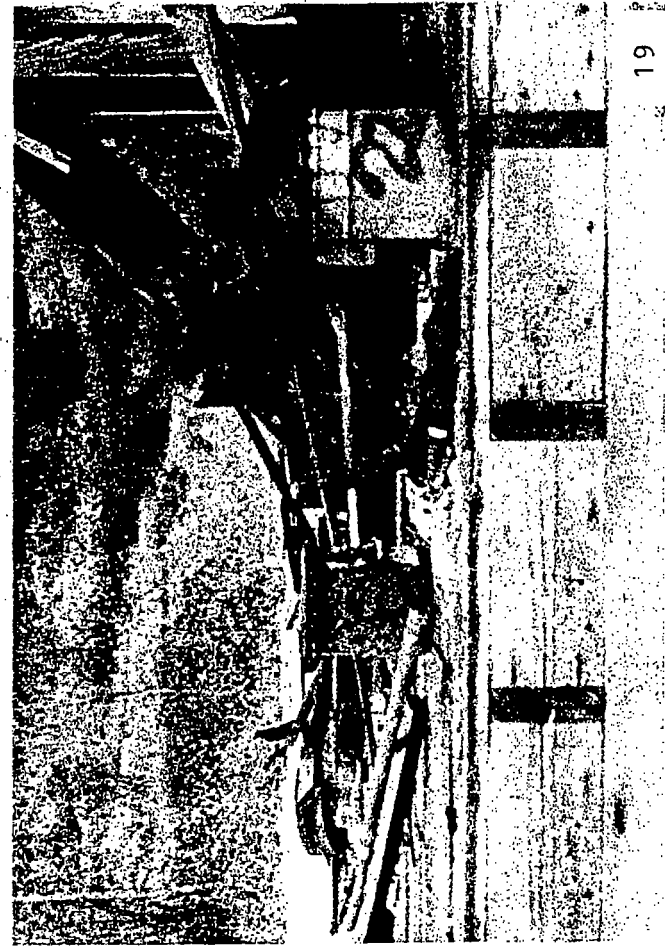
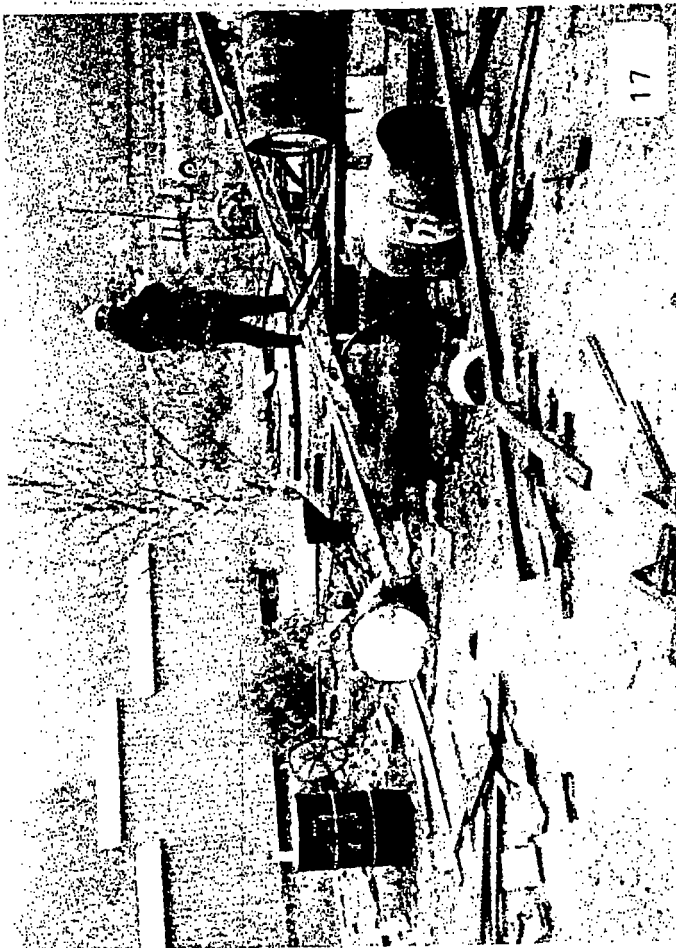
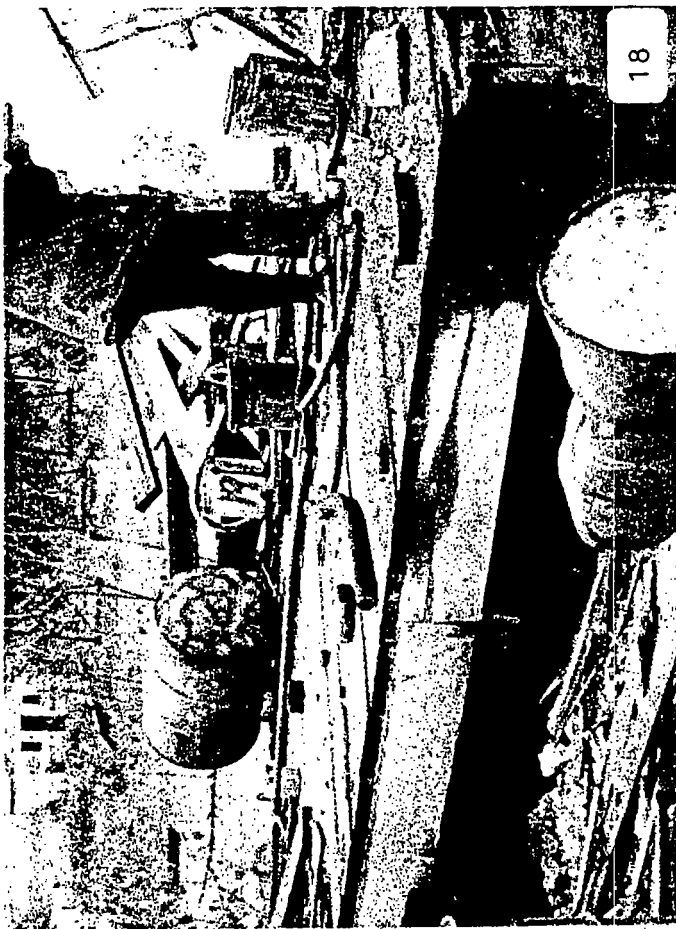
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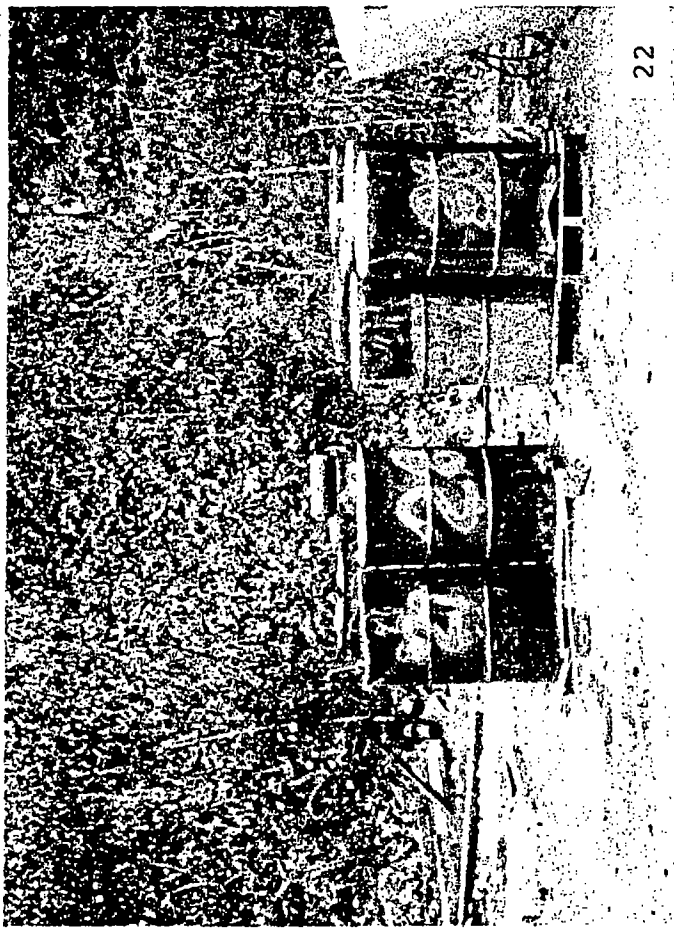


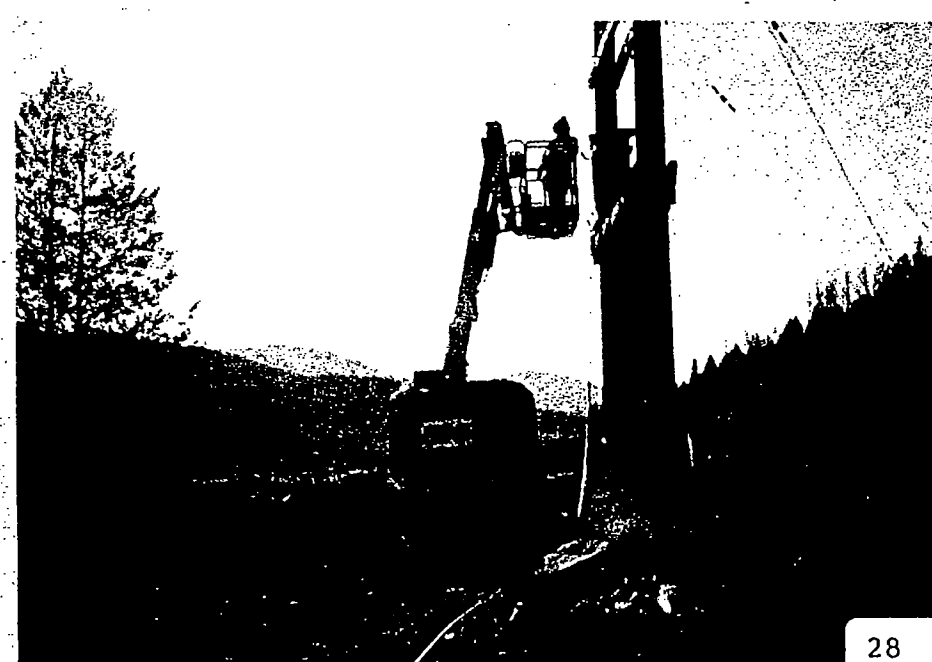
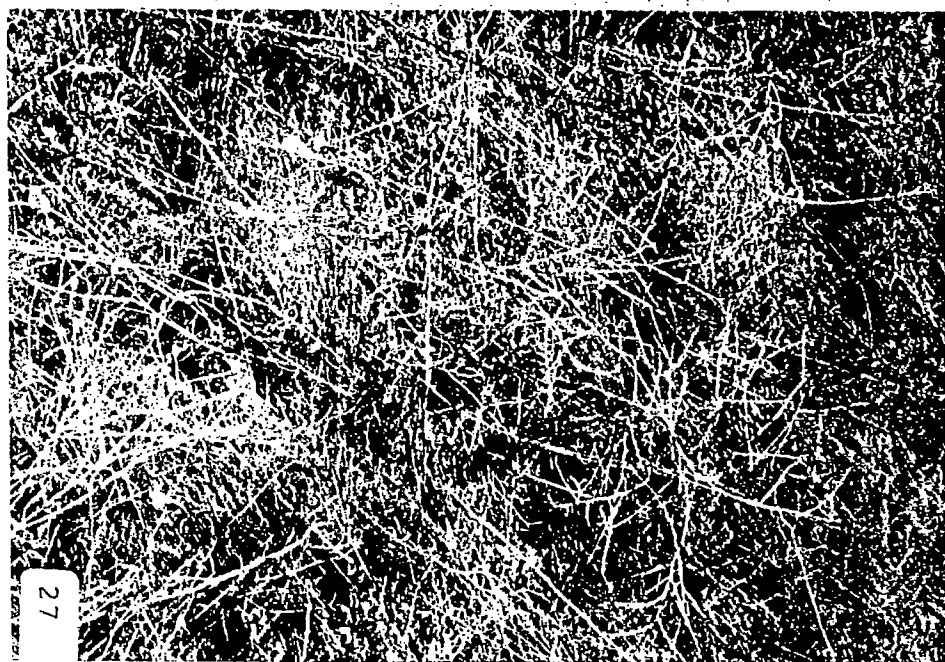


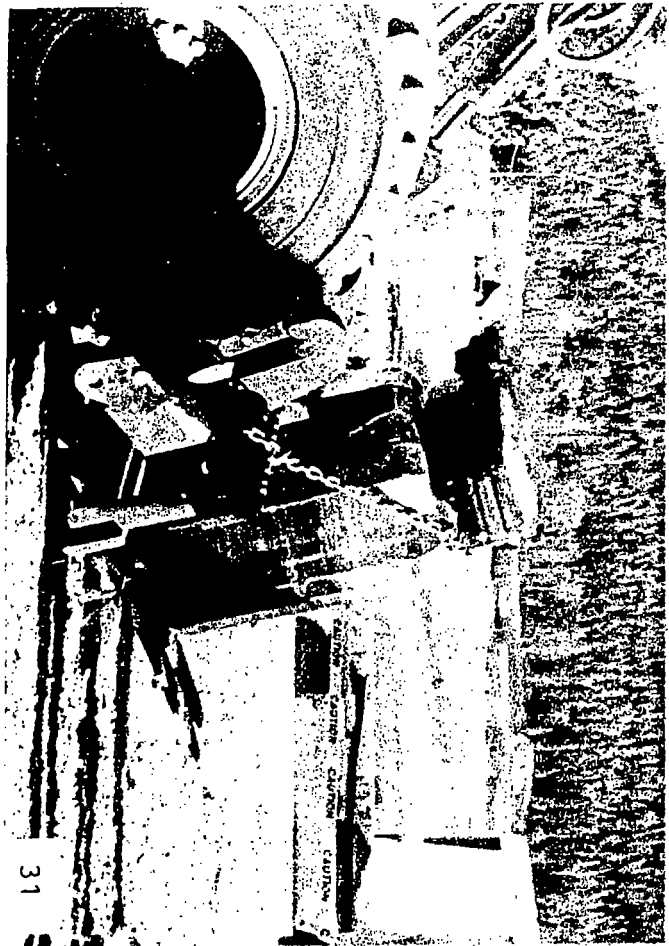






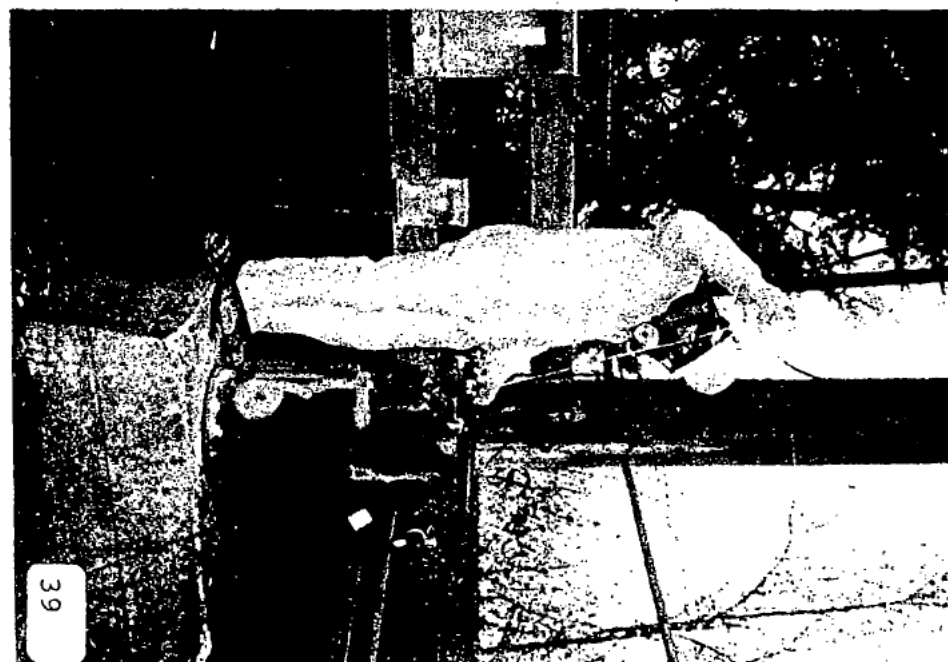


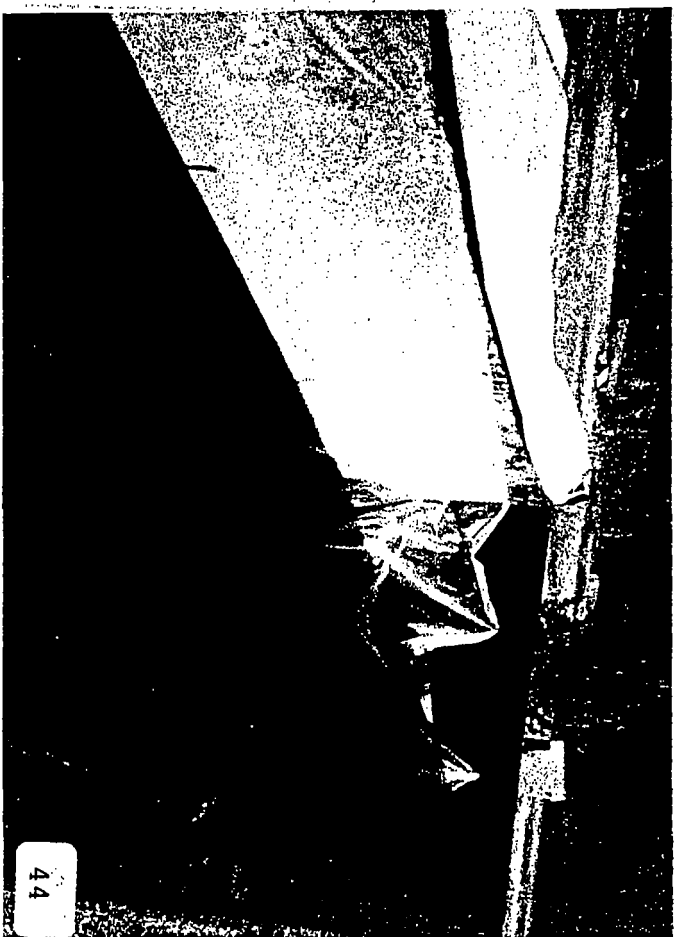


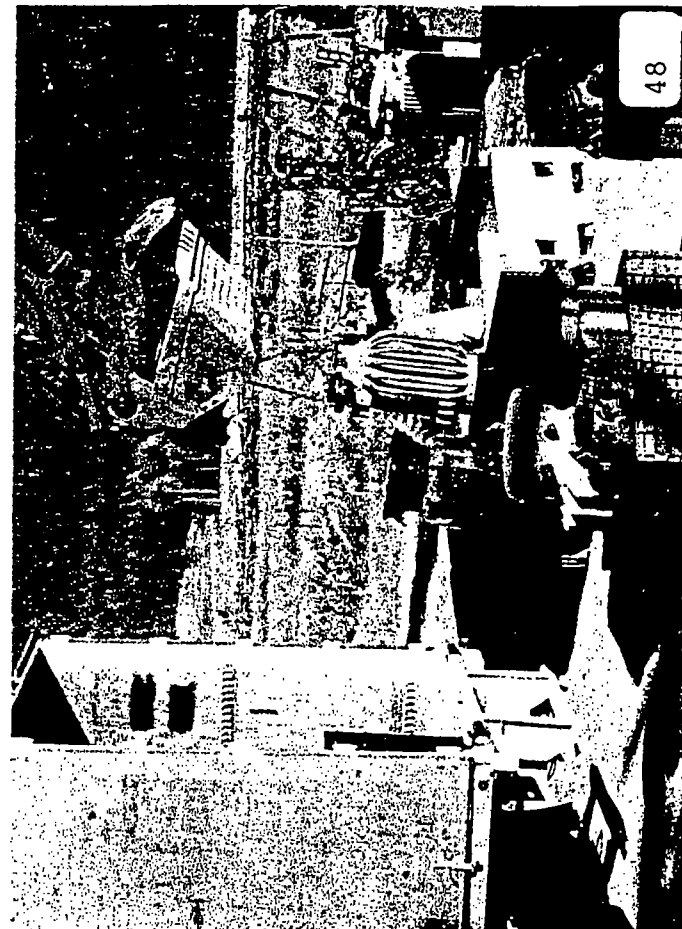
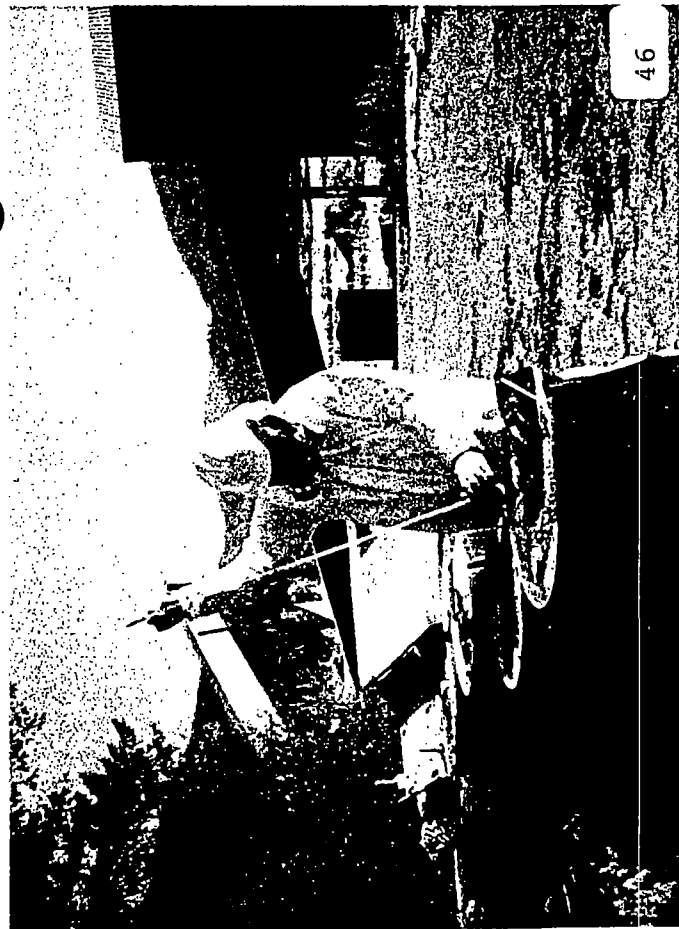
















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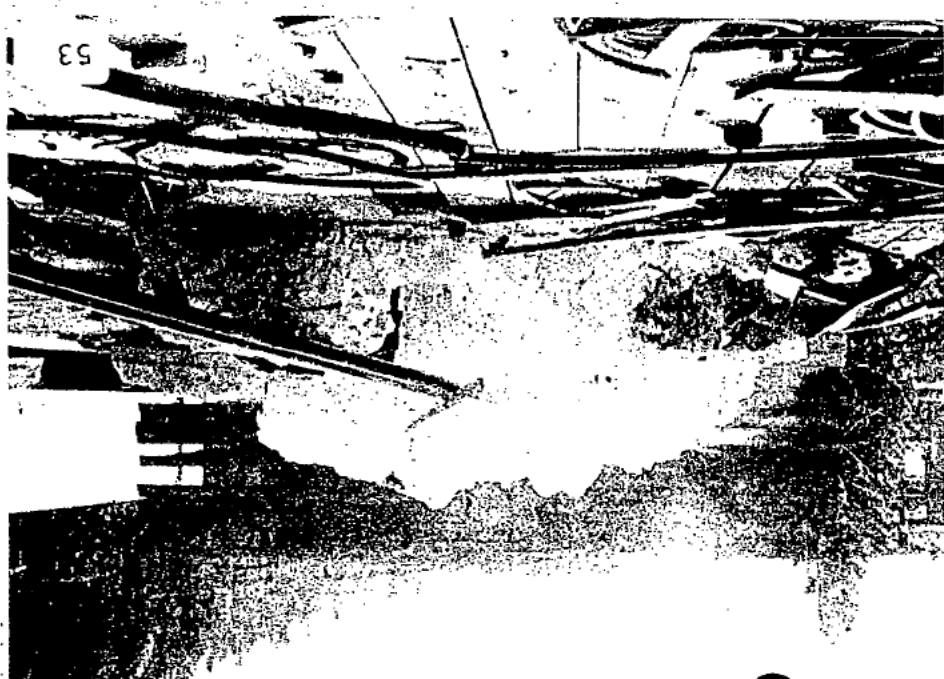
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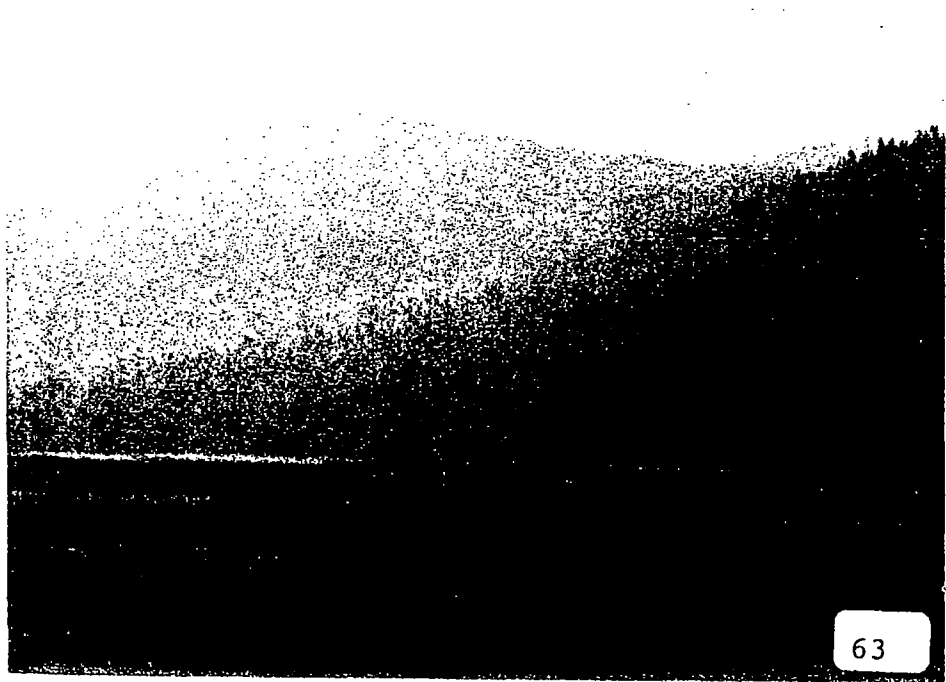
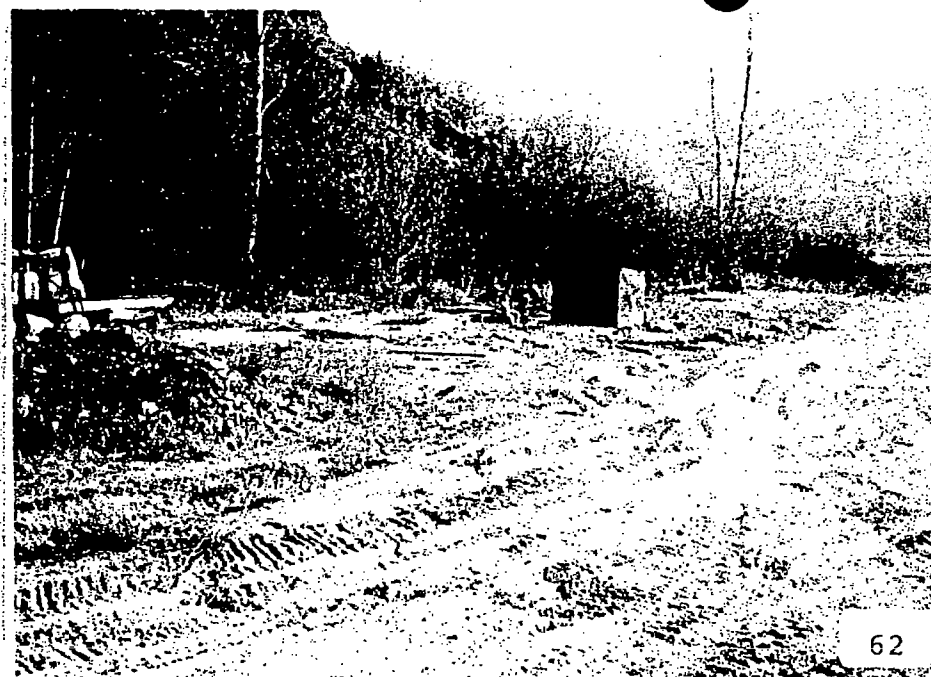
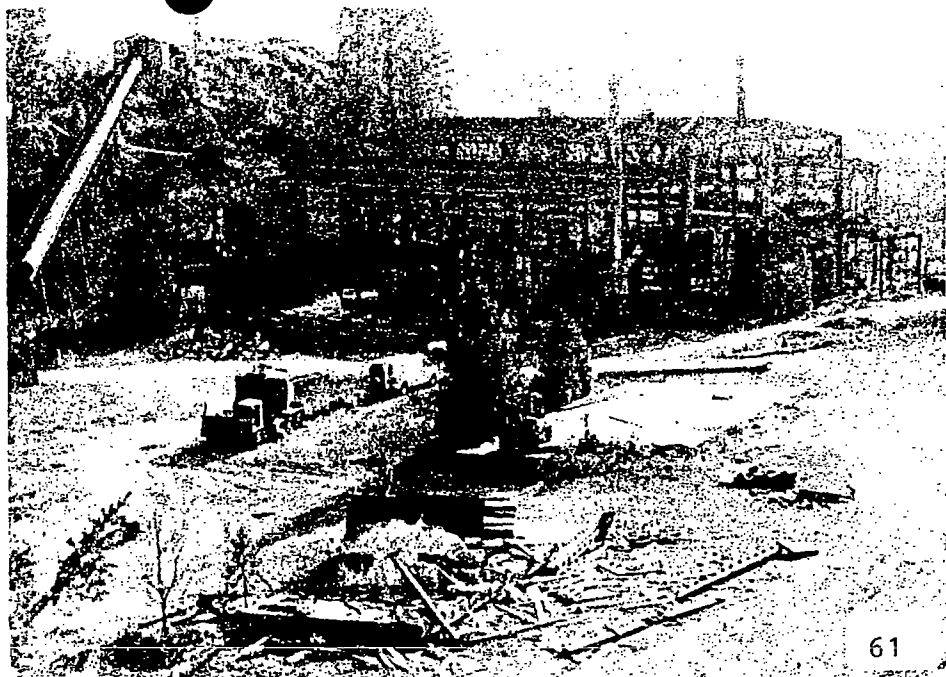
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## Anderson-Calhoun Mine/Mill Removal Action Site Supplemental Digital Still Photographs from Video Tapes Photographic Documentation

Photo Number	Date of Video Tape	Direction	By	Photo Description
D1	10-28-02	E	DP	A total of 76 empty drums segregated by ERRS prior to video taping of this area before removal action began.
D2	10-28-02	WNW	DP	View of the empty drums segregated by ERRS southeast of the mill building.
D3	10-28-02	NE	DP	View of the main drum staging area taken from the upper cat walk located inside the northeast corner of the mill building.
D4	10-28-02	NW	DP	Empty transformer carcass T18 shown on the left side of the photo, and drums 28 through 37 staged on pallets on the former maintenance repair shop foundation pad in the background.
D5	10-29-02	SE	DP	Drums, chemical spills, and debris located south of the center group of drums inside the northeast corner of the mill building.
D6	10-29-02	E	DP	Drums located south of the center group of drums. Drums 40 through 45 shown on the back wall were labeled containing PECs, sodium hydroxide, caustic soda beads.
D7	10-29-02	ENE	DP	View of the center group of drums, the majority labeled silicate of soda. The drums located on the outside of this group were vandalized with bullets, contents released onto the concrete floor.
D8	10-29-02	E	DP	Close-up view of auction ticket label from James G. Murphy, Inc. Auctioneers affixed to drum #77.
D9	10-29-02	ESE	DP	View of the center group of drums.
D10	10-29-02	E	DP	Drums located north of the center group of drums.
D11	10-29-02	ESE	DP	View of the north side of the center group of drums.
D12	10-29-02	E	DP	Drums located north of the center group of drums.
D13	10-29-02	NE	DP	Drums located north of the center group of drums.
D14	10-29-02	DN	DP	Close-up view of silicate of soda released from a bullet hole near the bottom of drum #89 and solidified on the concrete floor.
D15	10-29-02	NE	DP	Drums located north of the center group of drums.
D16	10-29-02	NE	DP	Contents of drum #108 released onto the concrete floor from a bullet hole.
D17	10-29-02	NW	DP	Drums located on the upper cat walk located on the west side of the mill building.
D18	10-29-02	NW	DP	Two drums (possible rain barrels) located near the roof of the mill building.
D19	10-29-02	NW	DP	Transformer T22.

Photo Number	Date of Video Tape	Direction	By	Photo Description
D20	10-29-02	NE	DP	View of transformer T23 attached to a power pole.
D21	10-29-02	NW	DP	Close-up view of transformer T23.
D22	10-29-02	SE	DP	Transformer T25.
D23	10-29-02	SW	DP	Transformer T26.
D24	10-29-02	SE	DP	View of pole-mounted transformer T27 above pad-mounted transformers T4 through T9. The former dry room concrete pad is shown in the lower right-hand corner of the photo. A large propane gas tank previously was positioned on the two concrete cradles shown on the lower left side of the photo.
D25	10-29-02	ESE	DP	View of pole-mounted transformer T28 above pad-mounted transformers T1 through T3. The 76 empty drums are shown in the background.
D26	10-29-02	E	DP	Transformers and other oil-filled electrical equipment (T29 through T36) located in the lower hopper/primary crusher area.
D27	10-29-02	E	DP	Oil-filled electrical equipment T31 and T32.
D28	10-29-02	NE	DP	Transformer T34 and circuit breaker T35. Oil stains below T34 on concrete ledge are shown.
D29	10-29-02	E	DP	Transformers T39 and T40 located on slope above the former maintenance repair shop concrete pad (center background). The wooden shed platform also is shown in the background.
D30	10-29-02	E	DP	Close-up view of T39 and T40.
D31	10-29-02	S	DP	Close-up view of empty transformer T37.
D32	10-29-02	S	DP	Capacitor T38.
D33	10-31-02	N	DP	Pole-mounted transformer T42 near the former engineer's office.
D34	10-31-01	N	DP	Electrical equipment T43 and T44 located on upper level cat walk above the main drum staging area at the northeast corner of the mill building. James G. Murphy, Inc. auction ticket labels are shown affixed to each equipment.
D35	10-31-01	E	DP	Oil-filled circuit breakers T45 and T46 located on upper level cat walk above the main drum staging area.
D36	10-31-02	S	DP	Capacitor T47.
D37	10-31-02	DN	DP	Container #122 located south adjacent of the mill building.
D38	10-31-02	E	DP	Assay lab dump site.
D39	10-31-02	E	DP	Assay lab dump site.
D40	10-31-02	DN	DP	Empty glass bottles at the assay lab dump site.
D41	10-31-02	SSW	DP	Containers #124 and #125 located south of the former dry room concrete pad.

Photo Number	Date of Video Tape	Direction	By	Photo Description
D42	11-1-02	S	DP	Capacitor T47.
D43	11-1-02	NW	DP	View of the 10,000-gallon underground storage tank(s). The concrete pedestal located left of the buried tank(s) is the former pump dispenser. Structure in the background is the secondary crusher building.

DI – Digital photo 1

N – North

S – South

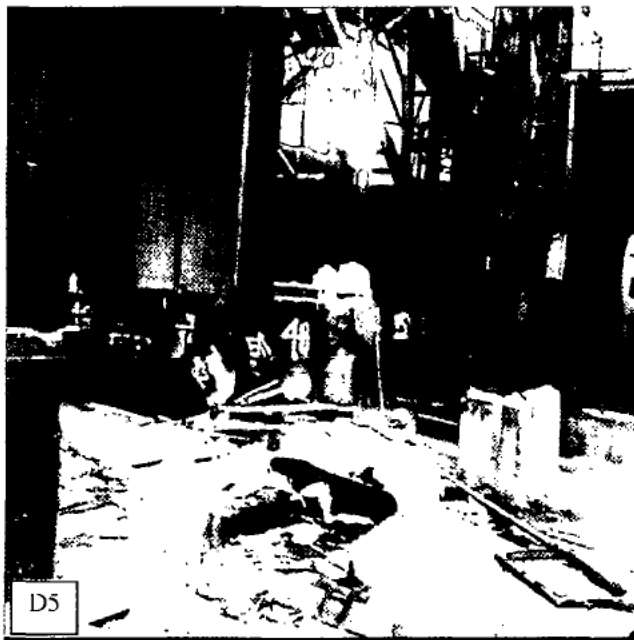
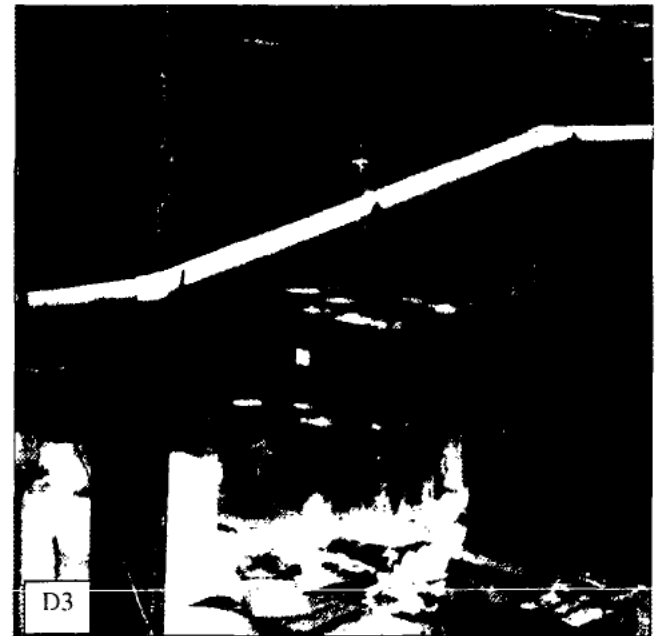
E – East

W – West

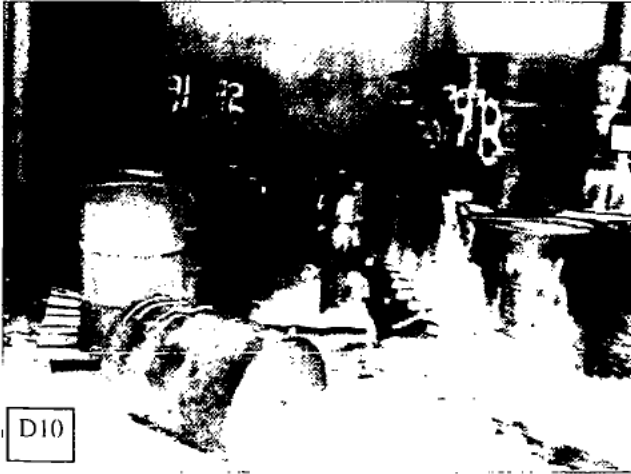
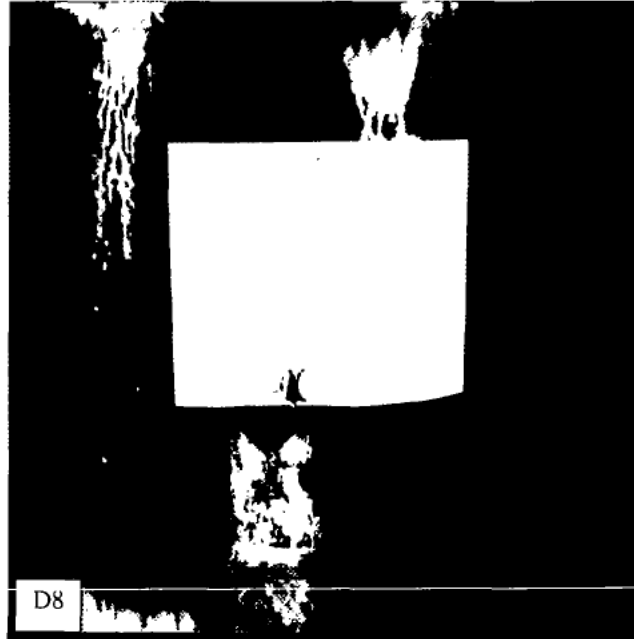
DN – Down

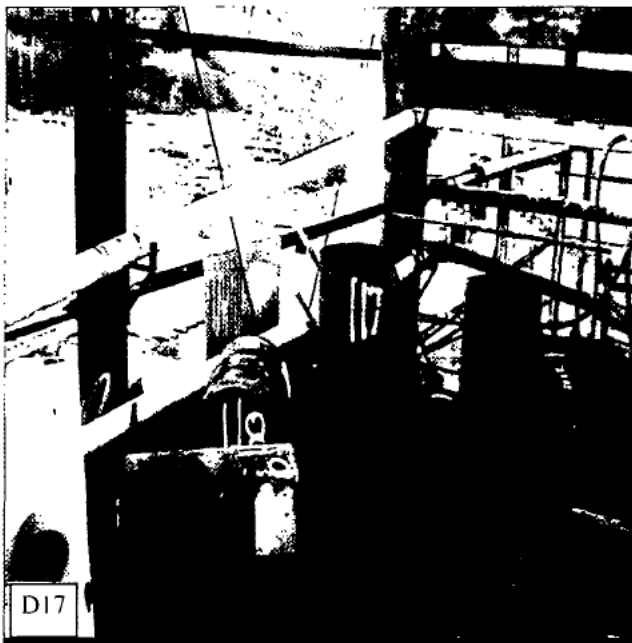
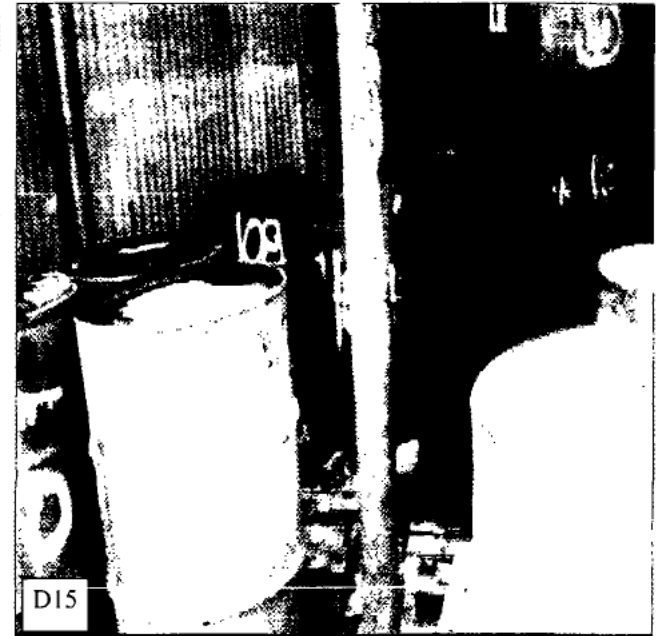
DP – Diana Phelan

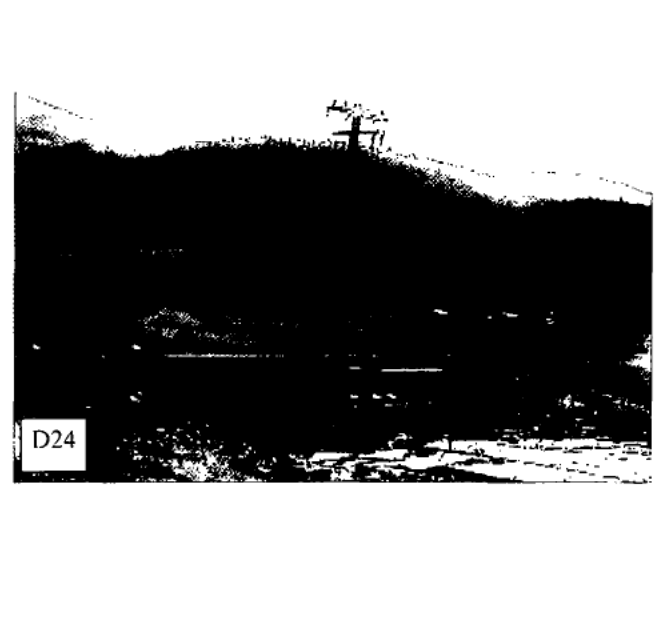
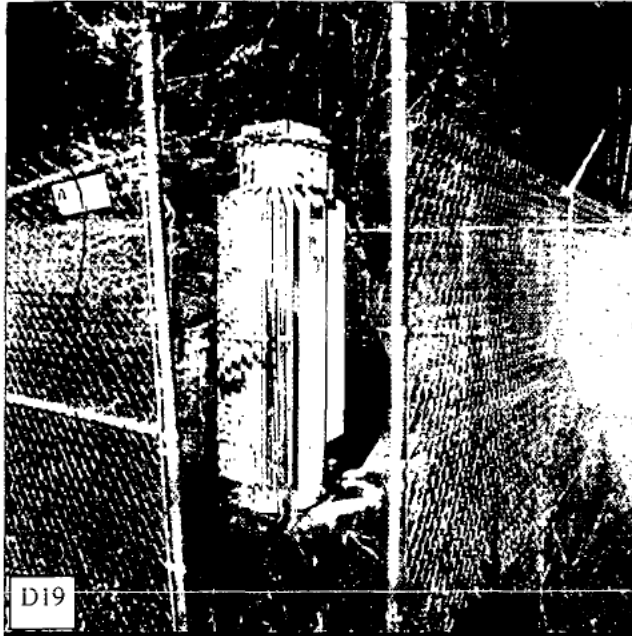
ERRS – Emergency and Rapid Response Service contractor

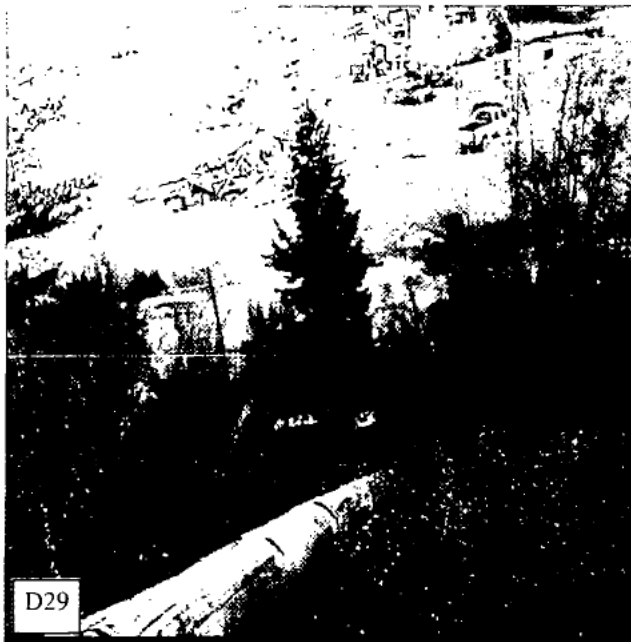
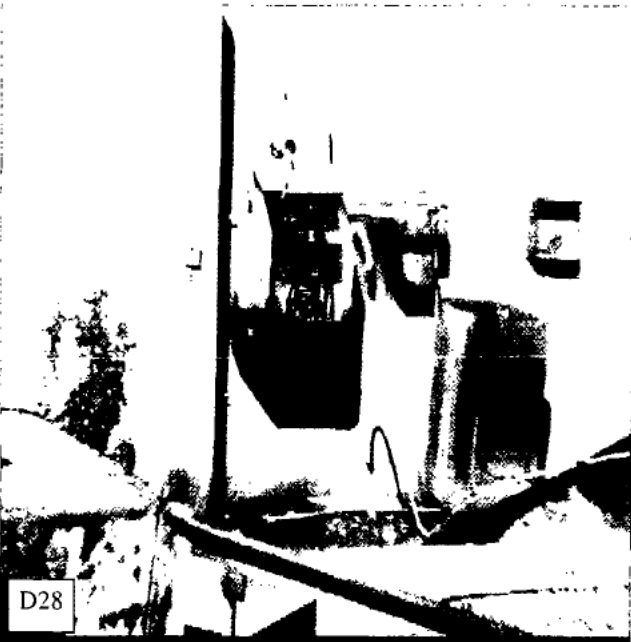
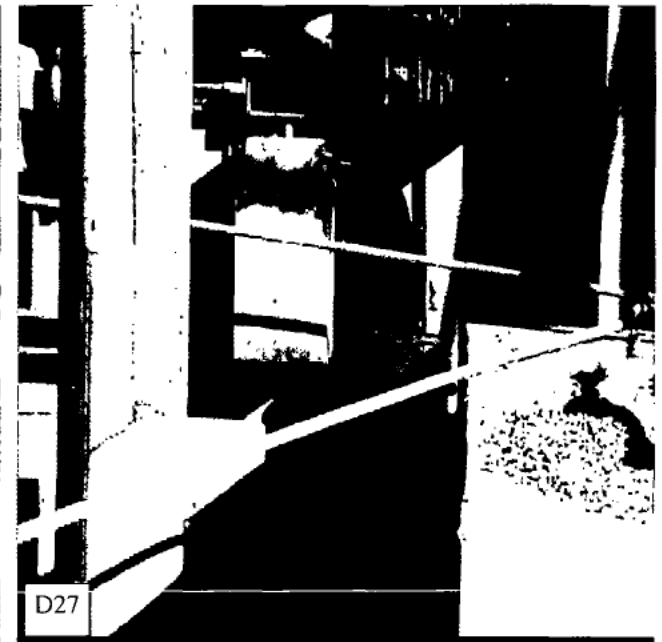


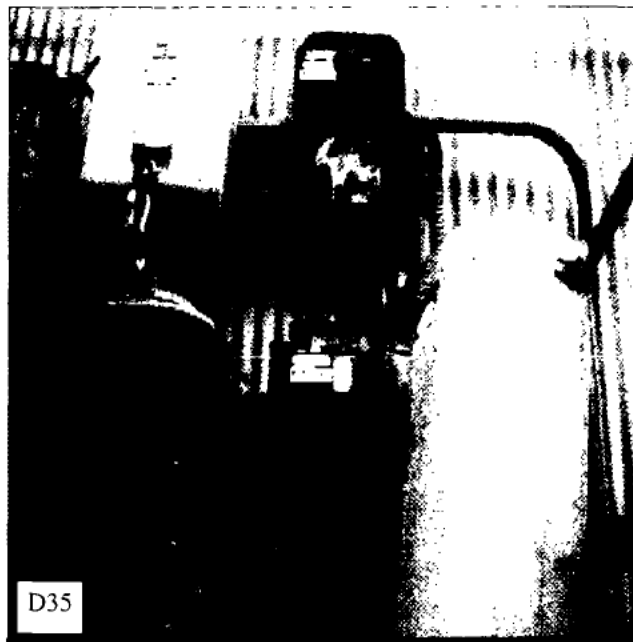
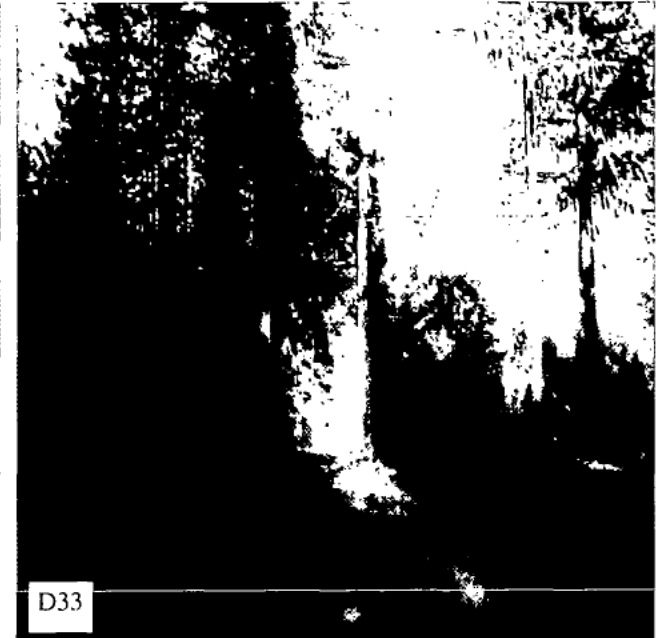
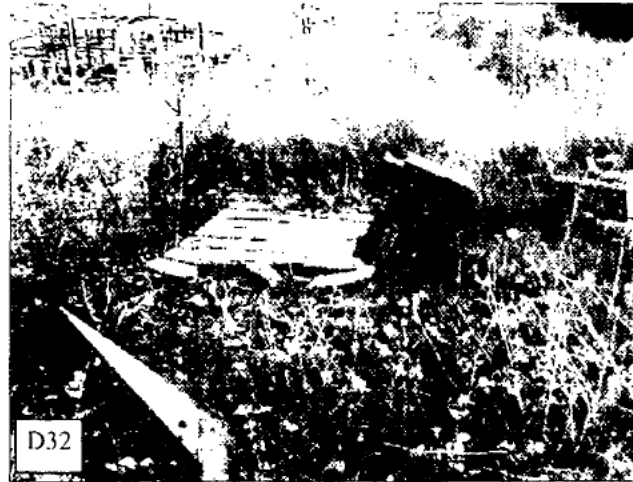
















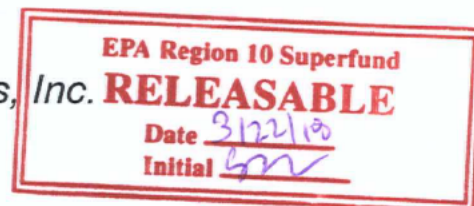
## APPENDIX I

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# Confidential Enforcement Addendum



Herrera Environmental Consultants, Inc.



Memorandum

To Anderson-Calhoun Mine/Mill Project File (TDD02-10-0006)  
cc Earl Liverman, U.S. EPA-OSC  
From Peter Jowise and Diana Phelan, START, Herrera Environmental Consultants  
Date March 19, 2003  
Subject Confidential Enforcement Addendum

U.S. EPA Region 10 is currently conducting a potentially responsible party (PRP) search related to the site. Prior to the removal action, it appeared that one financially viable PRP was identified for the site as Blue Tee Corporation, the corporate successor to the American Zinc, Lead & Smelting Company (AZLS). Earlier reports indicated that AZLS purchased the Anderson-Calhoun mine in 1964 and had constructed a flotation mill that began operating in 1965. AZLS also is identified as the owner of the mine property shown on the McKenzie property map acquired by the START representative from Valley Title Company in Colville, Washington (Valley Title Company 2002). AZLS conducted active mining and milling at the site until 1968. AZLS property was acquired by Blue Tee Corporation through *de jure* in 1978. Blue Tee Corporation has agreed to conduct CERCLA response actions at mine sites in EPA Region 7 based on prior mining operations of AZLS (USEPA 2002).

Other PRPs identified by the OSC and START during and after removal action activities include Combustion Engineering Inc. and James G. Murphy Inc. Auctioneers. It was reported by Guy Gregory of the Washington State Department of Ecology that Combustion Engineering, Inc. either purchased or leased the property from the owner in the early 1980s to convert the mill into a barite mill processing plant for barite ore mined at the Flagstaff Mountain area located near Northport, Washington (Gregory personal communication 2002). It is unknown how long Combustion Engineering, Inc. operated the mill, but eventually the company went bankrupt. Labels from James G. Murphy Inc. Auctioneers were observed affixed to various mill and electrical equipment, including one of the drums labeled silicate of soda, located in the main drum staging area (Drum #77; see photo D8 in Appendix H). (b) (6). (b) (6) was aware of the assay lab dump site and believed that the chemical bottles were dumped at the location alongside the main gravel road by James G. Murphy Inc. approximately four years ago.